Textile Industries

Formerly "COTTON"

A W. R. C. Smith Publication

JANUARY, 1953

New England Problem . . . . 67 & 77

Gizmo Wraps Cloth . 88

Cotton Behavior . . . 94

Electrical Equipment . 97

Bermuda Photo Album . 120

Spin-Weave

Variable Spinning and Metallic Clothing . . 80

Dynel on Cotton System 90

Ga. Weaving Practices 133

Wool

Impregnate Filling Cops 78

Wet Process

AATCC Annual Meet . 112
(Digest of 8 Papers)

Knitting

Socks Get Attention . 85

Prevent FF Wrecks . . 102

Better Tri ot Fabrics . 109

Complete Contents Page 3

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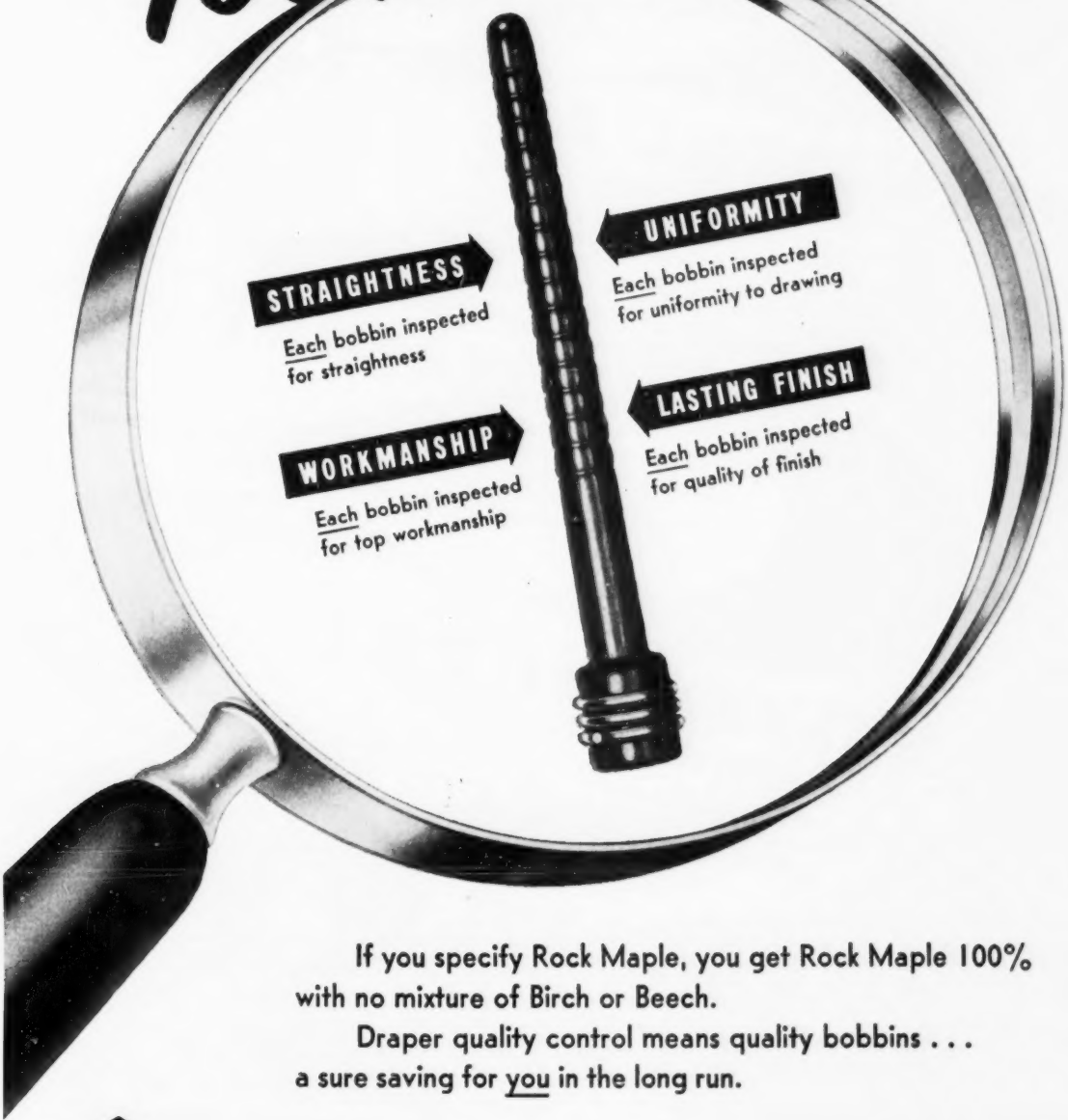

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Vol. 117, No. 1

Textile Industries

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January, 1953

CONTENTS

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Additional Items

Management

Taxes and Research ... 61
For Employees and Supervisors ... 65
Distressed Mills May Negotiate for Military Contracts ... 92
Small Plants Urged to Provide Health Services ... 111
Textile Applications for Television Equipment ... 154
Instrument Provides Data for Continuous Study of Machine Efficiency ... 163

Cotton

South Carolina STA Meets In Columbia ... 61
Second Report on Market Outlets for Cotton ... 87
Device Lubricates Card Flat Chains ... 73
Flat Clearer Covers Eliminate "Eyebrows" ... 73
Inch-by-Inch Lap Variation Measured at Picker ... 159
Fiber and Spinning Test Results ... 166
World Cotton Trade Up ... 168

Synthetics

Nylon Crepe Fabrics Made by Duplan ... 83
Rayon and Acetate Production Highest Since Third Quarter of 1951 ... 87
Chromspun Acetate Fiber Available in Staple Form ... 160
Synthetics On Their Own In ASTM ... 63

Wool

Southern Combing Expansion Viewed ... 63
Wool in Canada Always—Kimpton ... 108
Analysis of Movement of the Mule Carriage ... 147
Pin Rover for Wool and Synthetics ... 164
French Fiber Simulates Wool ... 167
Support of Wool Research Renewed ... 167

Wet Process

Cotton and Synthetic Woven Goods Finished During 1951 ... 83
Bleaching Acetate and Nylon Fabrics with Peracetic Acid ... 96
Furnisher Brush for Use with Shallow Engravings or Low-Viscosity Colors ... 157
Industrial Water Supply Studied ... 168

Knitting

Request to Restrict Knitting in Pa. ... 61
Crinkled Yarn for Stockings ... 65
Hosiery Imports on Decline ... 96
41st Knitting Arts Exhibition ... 166
New Sewing Machine ... 166
Invisible Fastener? ... 168
"Reading" R-100, 66-Gauge Knitter Developed ... 157

DEPARTMENTS

News in Brief ... 61
Textile Industry Activity Charts ... 65
An Executive Views the News in Textiles ... 67
Future Events ... 69
New Equipment and Materials ... 71
Shorts and Remnants ... 75
How Other Men Manage ... 141
What the Textile Mills are Doing ... 169
Personal Notes ... 173
Helpful Booklets Free ... 179
Suppliers News ... 191

Features

		SPIN-WEAVE	WOOL	SYNTHETICS	WET PROCESSING	KNITTING
Report on New England's Textile Industry	77	•	•	•	•	•
Good Carpets from Good Cops	78		•			
Why Not Variable Spinning Speeds, Metallic Clothing?	80	•	•	•		
Siren for Weave Room Hoist	84	•	•	•		
Montgomery Gives Socks Individual Attention	85					•
Cloth Wrapping Simplified	88	•	•	•		
Processing Dynel on Cotton System	90	•		•		
Research Findings—Why Cottons Behave Differently	94	•				
Electrical Equipment Conference	97	•	•	•	•	•
Drive Requirements of Some Textile Machinery	99	•	•	•		
Operating Capabilities of A-C Motors	100	•	•	•	•	•
Starting of Spinning and Roving Frames	101	•	•	•		
Electrical Problems and their Remedies	101	•	•	•	•	•
Devices Prevent Wrecks on Full-Fashioned Machines	102					•
Freedom Demands a Solvent America	104	•	•	•	•	•
Hub-Mounted Loom Camshaft Drive Gear	107	•	•	•		
High Quality Tricot Fabrics on Improved Machines	109					•
31st AATCC Convention	112	•	•	•	•	•
Printing Acrylic and Polyester Fibers	112			•	•	
Stripping Dyed Hydrophobic Fibers	113			•	•	
A Study of New Techniques in Warp Size Preparation	113	•			•	
Textile Odors and Deodorants	114				•	
Effect of Conditioning on Crease Recovery Angle	115			•	•	
Variables Affecting Dye Fixation in Padding	117				•	
Producing Bonded Fiber Fabrics	117	•	•	•		
Controlled Redox Potential Method of Dyeing Orlon	119			•	•	
Photo Album—A Trip to Bermuda	120	•				
The House in Order	127	•	•	•	•	•
Georgia Mill Weaving Practices	133	•				

General and Technical

		SPIN-WEAVE	WOOL	SYNTHETICS	WET PROCESSING	KNITTING
Quiller for Smaller Mills or Wide Variety of Counts	71	•	•	•		•
Evener Motion for Drafting Rolls	73	•	•	•		
Warp Size Applied at Room Temperature	73	•	•	•		
Chinese Graduates and Students in America Need Jobs and Help	83	•	•	•	•	•
69 Rapid Tax Amortization Certificates Issued	103	•	•	•	•	•
Continuous Dyeing Machine Promises Better, Speedier Work	108				•	
Reader Tells Experience in Running Nylon Staple	141	•		•		
Picker Lap Variation and the ITT Tester	143	•				
Simplified Method for Locating Warps in Storage	149	•	•	•		
Discussion on Twist in Knitting Yarns	151	•				•

Editorial and Executive Offices: 806 Peachtree St., N. E., Atlanta 5, Georgia

John C. Fonville, *Editor* John C. Cook, *Bus. Mgr.*

For names and addresses of other editorial and business representatives, see page 189

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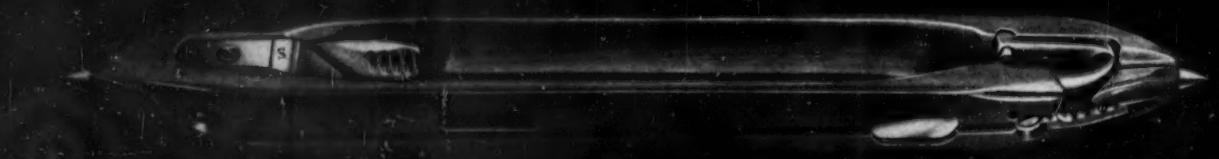

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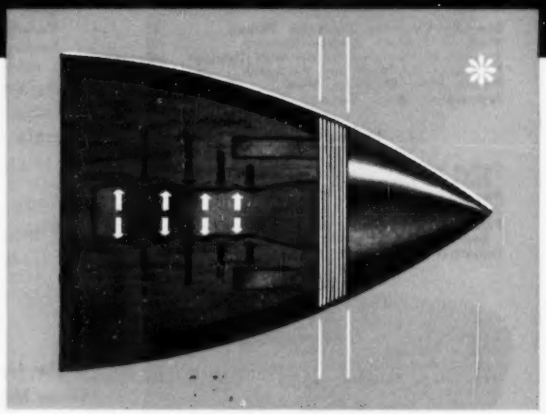

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Inquiries about the Avcoset process are cordially invited. Address American Viscose Corporation, Converting Relations Department, 350 Fifth Avenue, New York 1, N. Y.

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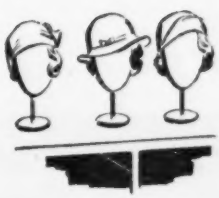
NEW YORK, January, 1933 – A wider range of rayon men's wear specialties was sold this Christmas than in any previous year.

PARIS, January, 1933 – New synthetic fur fabrics made of rayon are extremely popular here.



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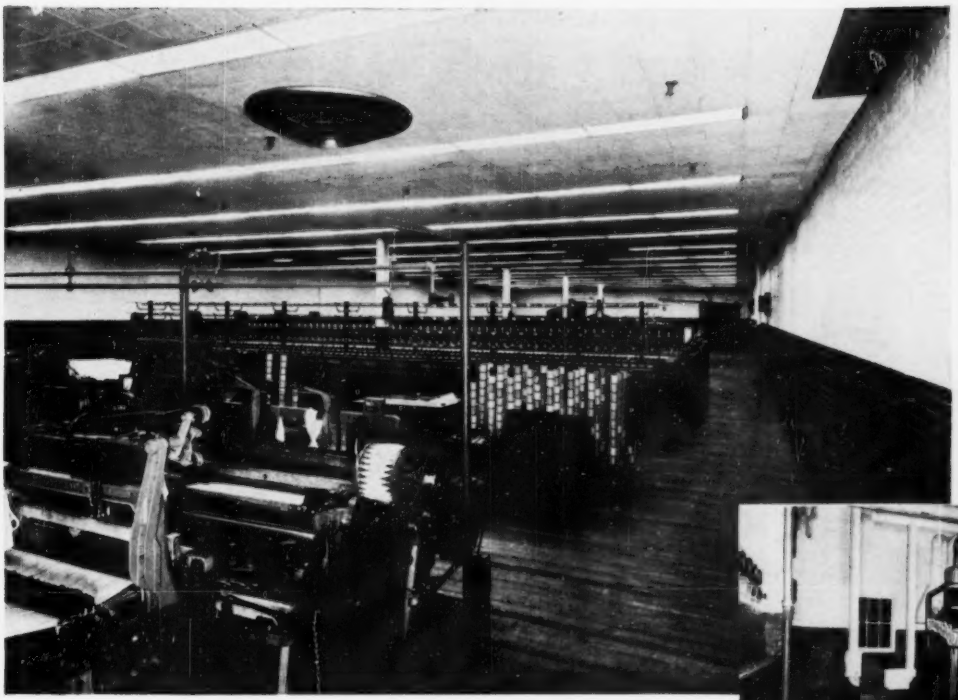
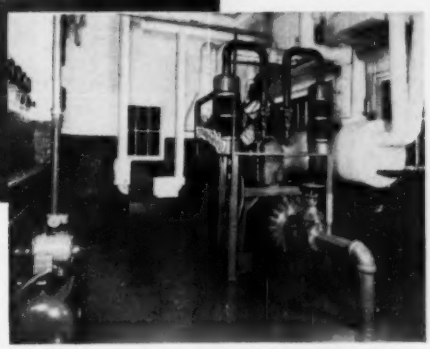
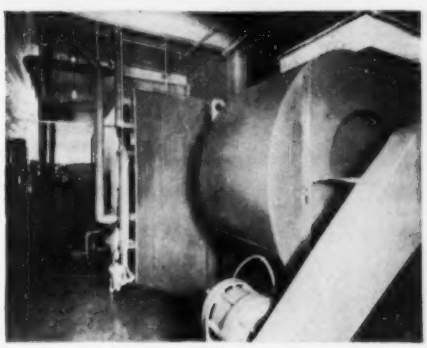


Pilot Plant of Pepperell Manufacturing Company, Lindale, Ga.



At the heart of the pilot plant is this air conditioning equipment room — containing compressors, water chiller and cool water circulating pump.



Apparatus room contains air blower and washer

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Amco Central Station Air Conditioning meets Pepperell's exacting specifications for control of temperature, humidity, air cleanliness.

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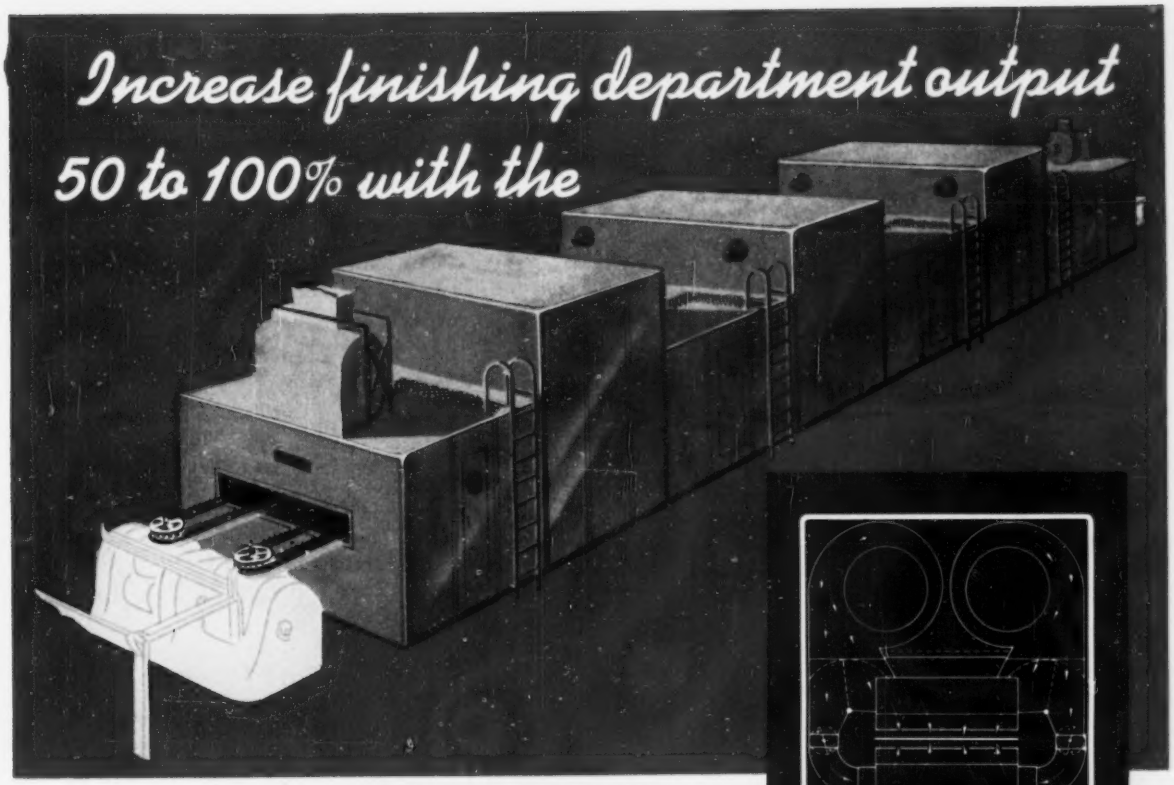

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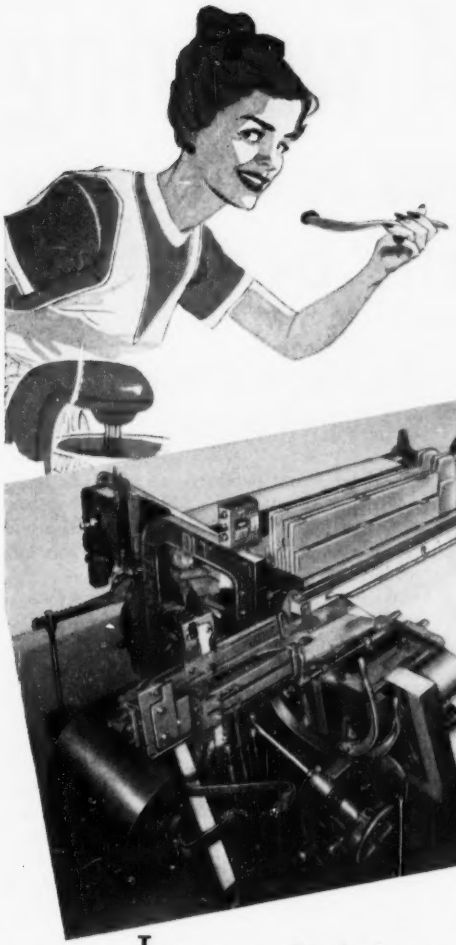

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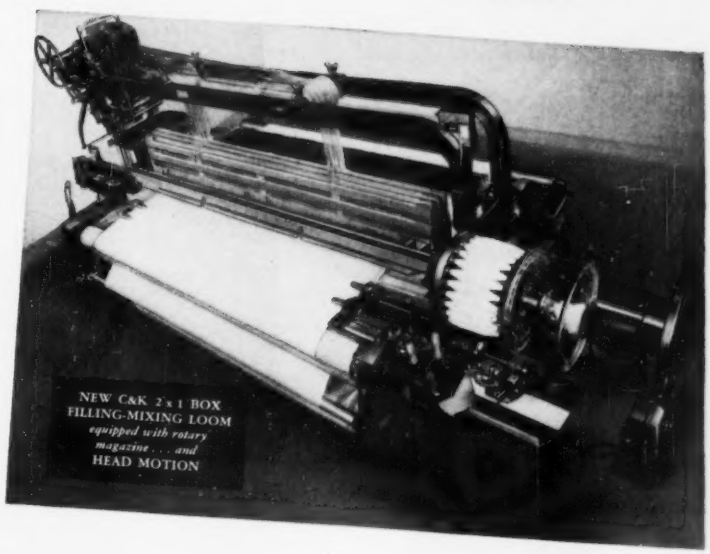

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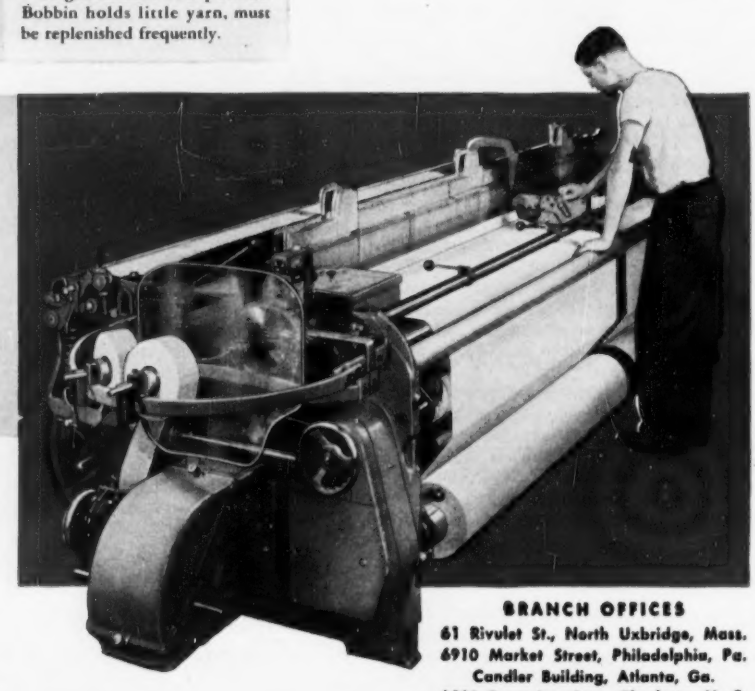
	M-2860	95" reed
	M-2960	110" reed

- 240 picks per minute
- One or more widths of cloth at one time
- Larger, stationary filling package



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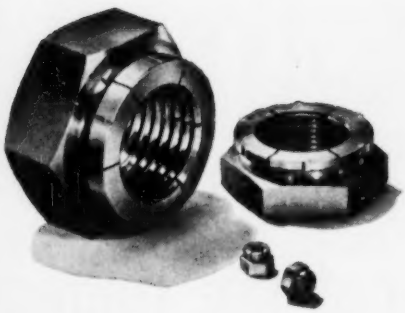


Just what are these Flexloc nuts?

"They're nuts that lock and stay put on a bolt. Once you install them, you can forget them. They sure save a lot of time in maintenance. Look at this shuttle assembly, it's fastened together with FLEXLOC *Self-Locking Nuts. We haven't had to put a wrench on it since we installed it."*

Nuts that work loose cause real trouble. Machinery is often damaged and stopped. Production suffers, deliveries lag, and you lose money. But there's a sure way to keep nuts where they belong. Specify and install FLEXLOC Self-Locking Nuts.

Standard FLEXLOCS have higher tensile strength than most other locknuts. They are one piece, all metal. And one nut covers the entire temperature range to 550°F. Stocked by leading industrial distributors. Increased capacity enables us to make quantity shipments of FLEXLOCS in a wide range of sizes. Write for literature and samples. SPS, Jenkintown 34, Pa.

FLEXLOC®
LOCKNUT DIVISION

SPS
JENKINTOWN PENNSYLVANIA

Our Fiftieth Year : A START FOR THE FUTURE

HUNTER *equipment safeguards quality*

at Juilliard

Leading designers always favor Juilliard fabrics because they have assurance that here, indeed, "fine fabrics are the foundation of fashion." Because Juilliard works unceasingly to safeguard its enviable reputation, it is only natural that they should use Hunter superior finishing and dyeing equipment. Mills everywhere prefer Hunter "plus production" equipment to finish a wide variety of ***woolens, cottons, blends*** and ***synthetics.***

The versatile Model "D" Tenter Type Carbonizing Range permits complete drying and carbonizing in one machine without auxiliary equipment of any kind. In small plants it serves both purposes regularly and in larger installations it is an excellent emergency replacement for the regular 'sweat' dryer. Complete, detailed information in BULLETIN CC.

Juilliard and other leading mills use this Hunter Top Dyeing Machine to achieve top efficiency with considerable savings in water, dye stuffs, steam, labor and time. Simplified unloading and reloading reduces downtime between cycles to absolute minimum of less than 15 minutes. Complete details and specifications in BULLETIN TDK.

+us production

- efficient operation of modern equipment
- less down time of equipment
- quick, easy repair . . . rapid parts delivery

JAMES HUNTER

MACHINE COMPANY

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

BUILT BY HUNTER . . . IT'S DEPENDABLE

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS.

DeCetex

the superdurable *Silicone* water repellent for synthetic fabrics

Withstands repeated dry cleaning and laundering. DeCetex is a most durable water repellent finish for synthetic fabrics and blends. Fabrics properly treated with DeCetex retain a spray rating of 100 after 10 or more dry cleanings; 80 to 100 after 3 two-hour launderings.

Resists water-borne stains; improves fabric quality. DeCetex imparts a desirable hand and excellent resistance to water-borne stains. DeCetex treated fabrics seldom show mark-off as a result of the finish. They have superior resistance to wear; improved sewability; increased tear strength; greater stability and crease resistance.

Easily applied with standard finishing equipment. DeCetex is easily applied from a water emulsion and cured at normal resin curing temperatures. No corrosive chemicals are involved; no washing or neutralizing is required and treated fabrics remain odorless even after aging.

For more information on the many advantages offered by DeCetex or for technical assistance, call our nearest branch offices or write for data sheet BL-1.

DOW CORNING SILICONES

Atlanta
Chicago
Cleveland
Dallas
Los Angeles
New York
Washington, D. C.

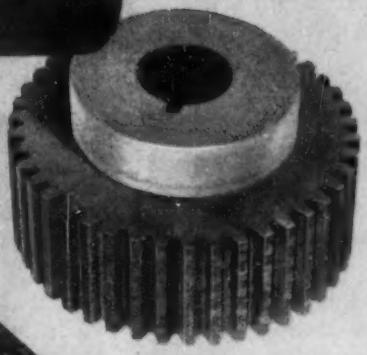
DOW CORNING CORPORATION • MIDLAND, MICHIGAN

In Canada: Fiberglas Canada Ltd., Toronto • Great Britain: Midland Silicones Ltd., London

here's why...

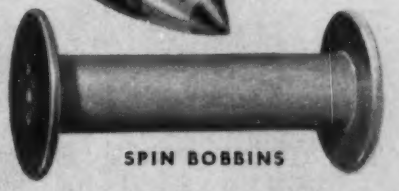
MORE and MORE mills are turning to micarta®...

LAP ROLLS



GEARS

SHUTTLES



SPIN BOBBINS

because of these qualities...

Saves Weight, weighs half as much as aluminum. **Resists Compression,** pound for pound greater than steel. **Resists Impact,** absorbs and withstands severe shock. **Withstands Vibration,** cushions repeated shock without effect. **Insulates** like mica but greater flexibility. **Resists Corrosion,** not affected by acids, oils, fumes. **Resists Heat and Cold** from −112°F to 212°F. **Resists Moisture,** in fact, water is its best lubricant. **Wears Slowly, Evenly,** in many cases more slowly than metal. **Reduces Noise,** absorbs vibrations, deadens noise. **Fabricates Easily,** machined or punched with ordinary tools.

because of these flexibilities...

Laminated MICARTA includes standard structural shapes: plates, sheets, angles, channels, rods, tubes and zees. Occasionally this class includes simple molded shapes. **Molded MICARTA** is the choice for complicated shapes, large production quantities of either simple or complicated shapes, or for certain properties better obtainable in form molding.

because micarta is basic...

MICARTA is a tough and resilient basic material that welcomes comparison with other basic materials. This versatile plastic outlasts wood and metal in many punishing applications. Investigate MICARTA and you'll find it the economical solution to tough production problems.

YOU CAN BE SURE...IF IT'S

Westinghouse

micarta

for more information on how MICARTA can help solve your production problems, and give you advantages no metal can give you, please fill out the coupon below. A MICARTA representative will then call on you personally.

mail it today!

Westinghouse Electric Corporation
MICARTA Division, Trafford, Pa.
Attention: L. A. Pedley

Sir: (Please Check One)

☐ Please have your representative call

☐ Please send me the complete facts on MICARTA

Name_____ Company_____

Address_____

City_____ Zone____ State_____

J-06501-B

Are space and weight savings vital?

here's how leading aircraft manufacturers get them with NEEDLE BEARINGS

Torrington Needle Bearings are integral design features in many leading aircraft because of their light weight and compactness coupled with their high rated radial capacity.

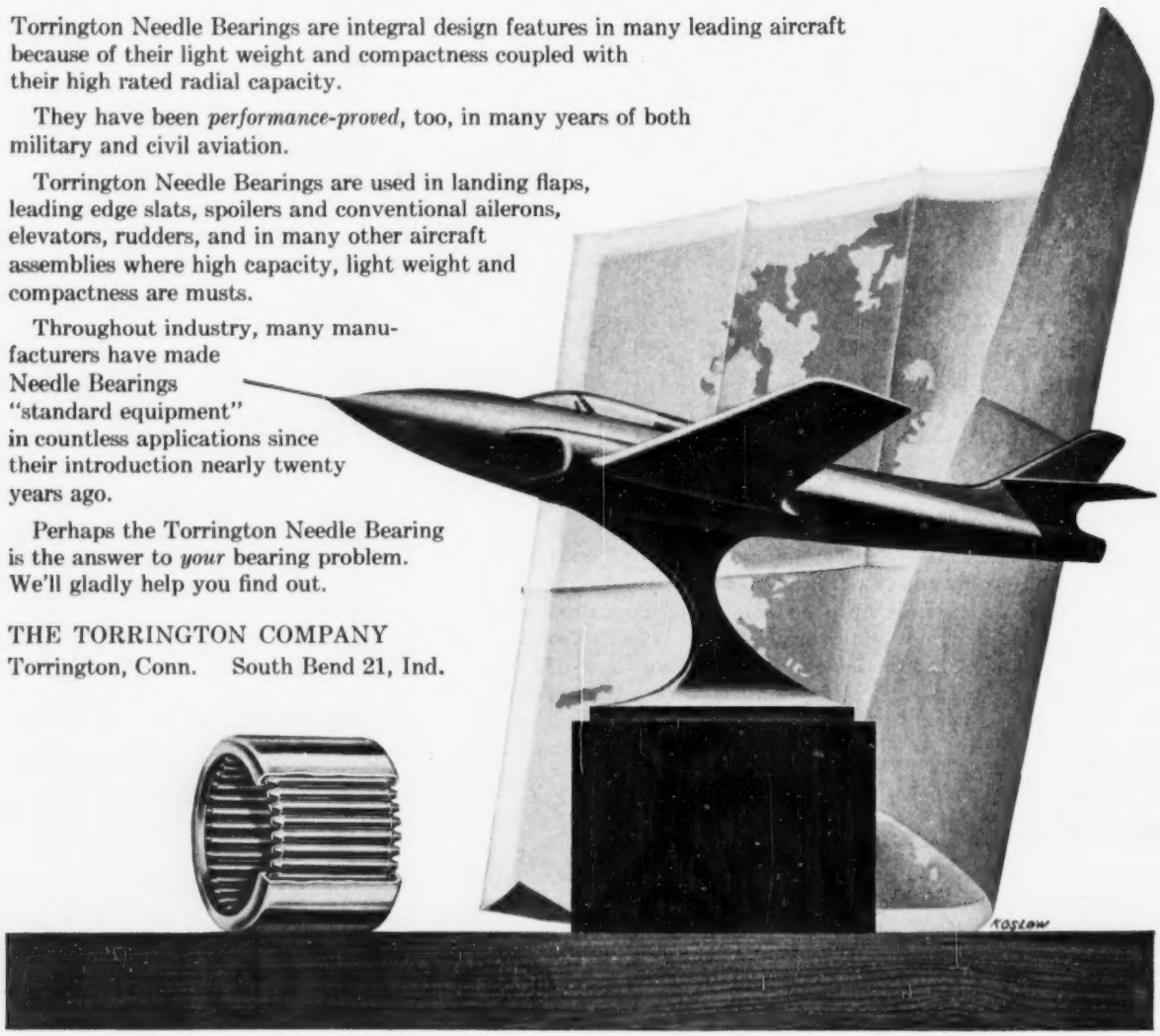
They have been *performance-proved*, too, in many years of both military and civil aviation.

Torrington Needle Bearings are used in landing flaps, leading edge slats, spoilers and conventional ailerons, elevators, rudders, and in many other aircraft assemblies where high capacity, light weight and compactness are musts.

Throughout industry, many manufacturers have made Needle Bearings "standard equipment" in countless applications since their introduction nearly twenty years ago.

Perhaps the Torrington Needle Bearing is the answer to *your* bearing problem. We'll gladly help you find out.

THE TORRINGTON COMPANY
Torrington, Conn. South Bend 21, Ind.



TORRINGTON *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Tapered Roller • Straight Roller • Ball • Needle Rollers

Trade-marks of leading aircraft companies whose products enjoy the benefits of Needle Bearings.

LOCKHEED · CONVAIR · BOEING · Cessna · Beechcraft · REPUBLIC AVIATION · NORTHROP · N A A · FAIRCHILD · DOUGLAS

U. S. Textile Machine Company presents to Face Drive Twister customers

THE ANSWER TO BETTER YARN QUALITY WITHOUT REDUCING TWISTING SPEEDS!

attention:

FACE DRIVE TWISTER CUSTOMERS

Run at high spindle speeds and get even better quality yarn with new, precision balanced wind, bottle type supply spools from the new Vertical Spooler!

NEW TYPE!

BOTTLE WIND SPOOLS

improve yarn quality by minimizing broken filaments in twisting operation

MORE SPINDLES IN LESS FLOOR SPACE

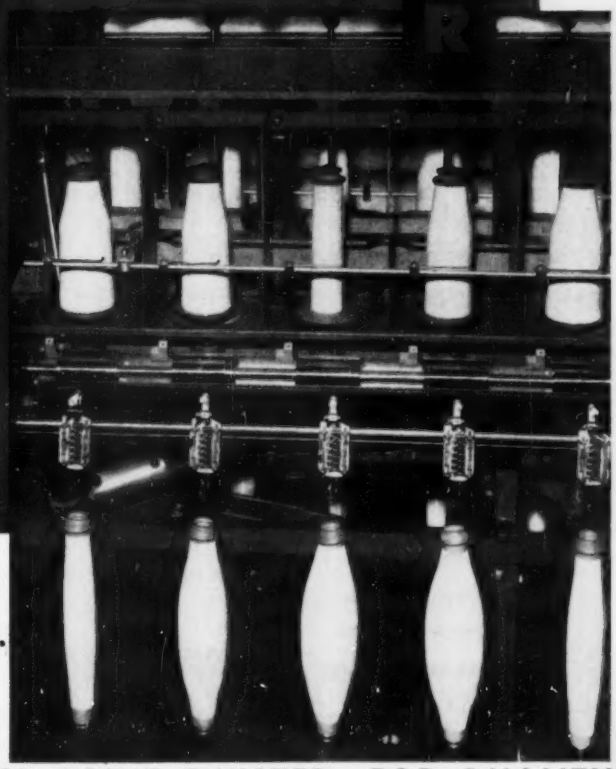
U.S. ACME

Now... NEW HIGHER SPOOLING SPEEDS

with PACKAGES THAT MINIMIZE BROKEN FILAMENTS without reducing twisting speeds!

VERTICAL SPOOLER

SPOOL, CLEAN & OIL *IN ONE HIGH SPEED OPERATION*



Let's talk over your spooling requirements . . . write, phone or wire for complete data.

U. S. TEXTILE MACHINE CO.

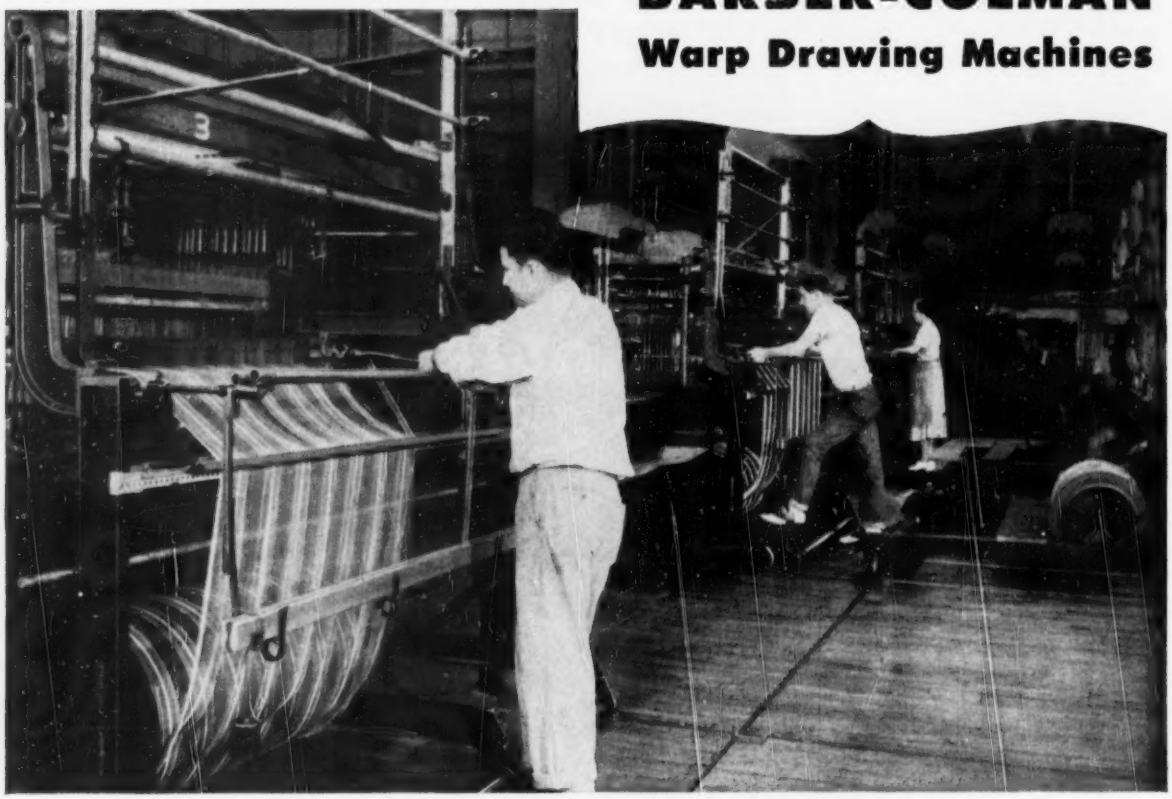
SCRANTON 8, PENNA.

SERVICE AT THE TIME OF PURCHASE . . . SERVICE OVER THE YEARS!

VERTICAL SPOOLER PLUS FACE DRIVE TWISTER—FOR QUALITY!

Complicated drafts can be accurately drawn on . . .

BARBER-COLMAN
Warp Drawing Machines



Dan River Mills, Inc., Schoolfield Division, Danville, Virginia, has seven Barber-Colman Warp Drawing Machines. The three shown above, each with capacity for up to 16 harness and 6 banks of drop wires, are operated by two men and a woman with a helper for each machine.

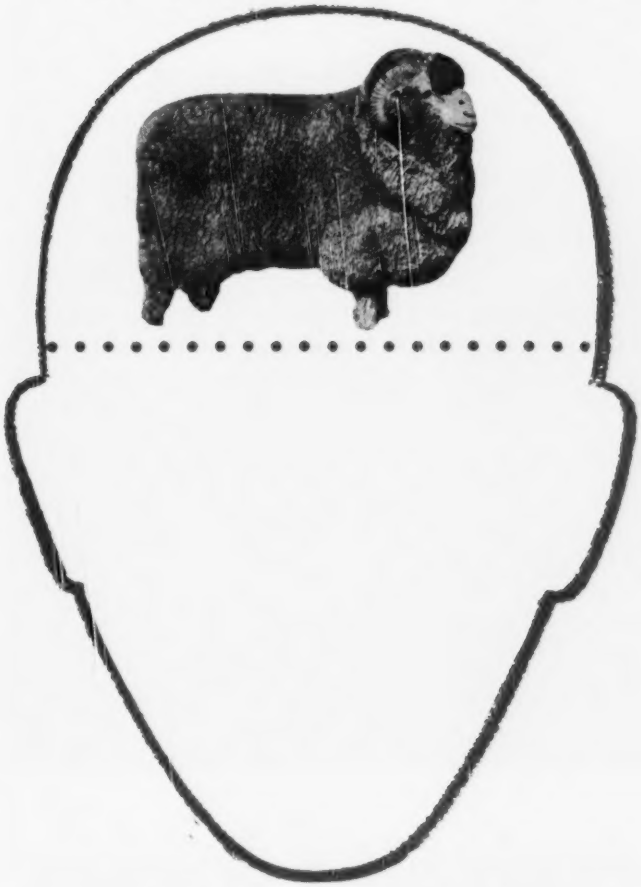
The Barber-Colman Warp Drawing Machine is completely equipped to handle warps from a flat sheet, split sheet, one-and-one lease, or combination of one flat sheet and one leased warp. Warps of cotton, worsted, wool, filament, spun synthetic yarn, or monofilaments can be drawn for plain or dobby weaves. Complicated drafts can be accurately drawn because all the weaving elements are individually controlled from a single sheet metal pattern. Reed, harness, and drop wires are all drawn simultaneously in one loading and setting of the machine.

DATA: Cotton warp, stripe . . . 2992 ends . . . 69 sley . . . dobby or fancy draw . . . 11 harness . . . 4 banks of drop wires . . . 160 picks per minute. (These specifications are typical of the varied work done on the machines illustrated above.)

AUTOMATIC SPOOLERS
SUPER-SPEED WARPERS
WARP TYING MACHINES
WARP DRAWING MACHINES

BARBER-COLMAN COMPANY
ROCKFORD, ILLINOIS, U.S.A.
Framingham, Mass., U.S.A. • Greenville, S.C., U.S.A. • Manchester, England • Munich, Germany

when you think of wool...



(Depth of Shading Indicates Syton's Increasing Effectiveness)

Wool Grade	Average Minimum Count Commonly Spun	Average Maximum Count Commonly Spun
80s	52	70
70s	48	60
64s	40	50
60s	30	44
58s	28	40
56s	20	36
50s	18	32
48s	18	28
46s	18	26
44s	16	24
40s	13	20
36s	6	16

WHERE CAN SYTON HELP YOU MOST?

think of

SYTON

Woolen and worsted processing for civilian consumption is again at a high level. Competition is heavy . . . good reason why you should give some extra thought to Syton, Monsanto's silica sol for more efficient and profitable spinning.

Syton boosts the yarn strength of woolens and worsteds from 10 to 30%, depending upon the particular construction. Spinnability is further improved since, with Syton, you get fewer ends down . . . rounder woolen ropings with less apron pressure . . . finer counts from equal stocks . . . equal yarn strength with less twist.

JUST AS EFFECTIVE ON BLENDS—

Syton yields similar processing advantages when used in synthetic-wool blends. In addition, it helps control inter-fiber slippage by causing the smooth synthetic staple to behave more like a serrated wool fiber.

Syton: Reg. U. S. Pat. Off.

ASK FOR NEW SYTON BOOKLET, JUST PUBLISHED

MONSANTO CHEMICAL COMPANY,
Textile Chemicals Dept., Desk TIT-41
Everett Station, Boston 49, Mass.

Please send me new Syton booklet.

Name & Title _____

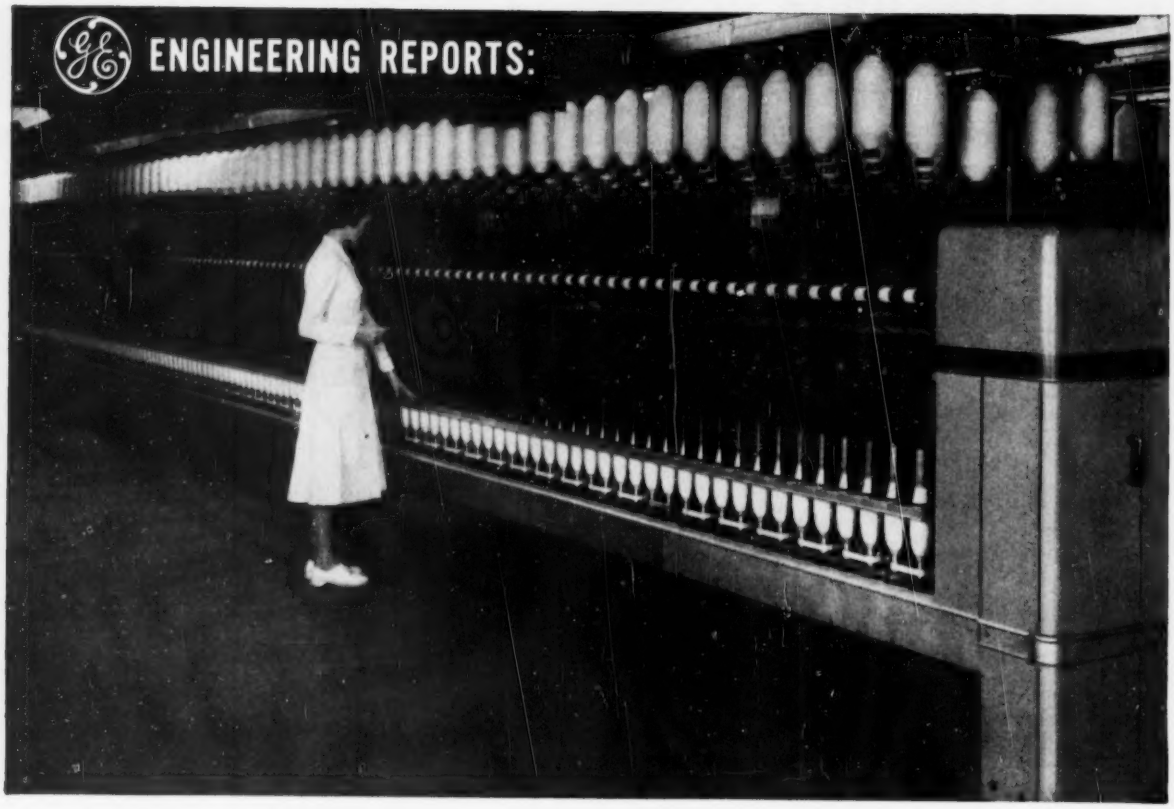
Company _____

Address _____

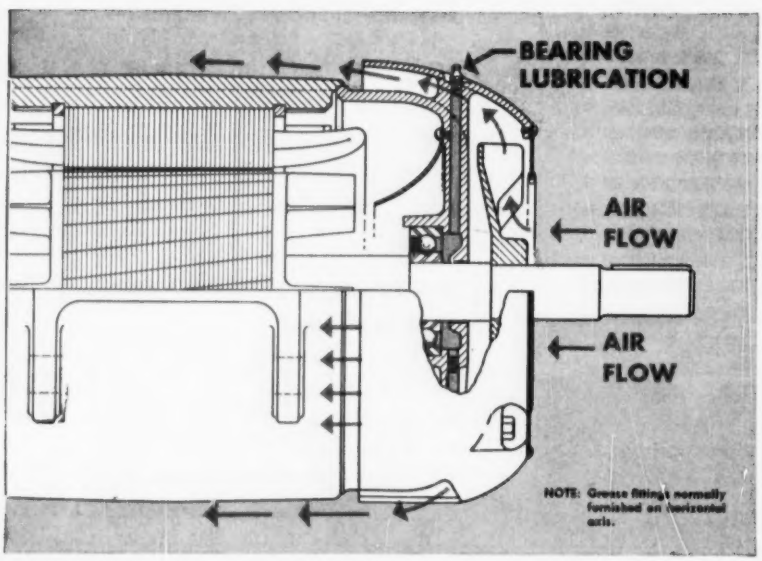
City, Zone, State _____

SERVING INDUSTRY . . . WHICH SERVES MANKIND

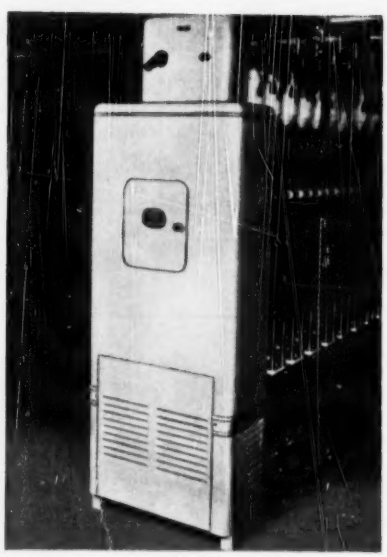
MONSANTO
CHEMICALS — PLASTICS



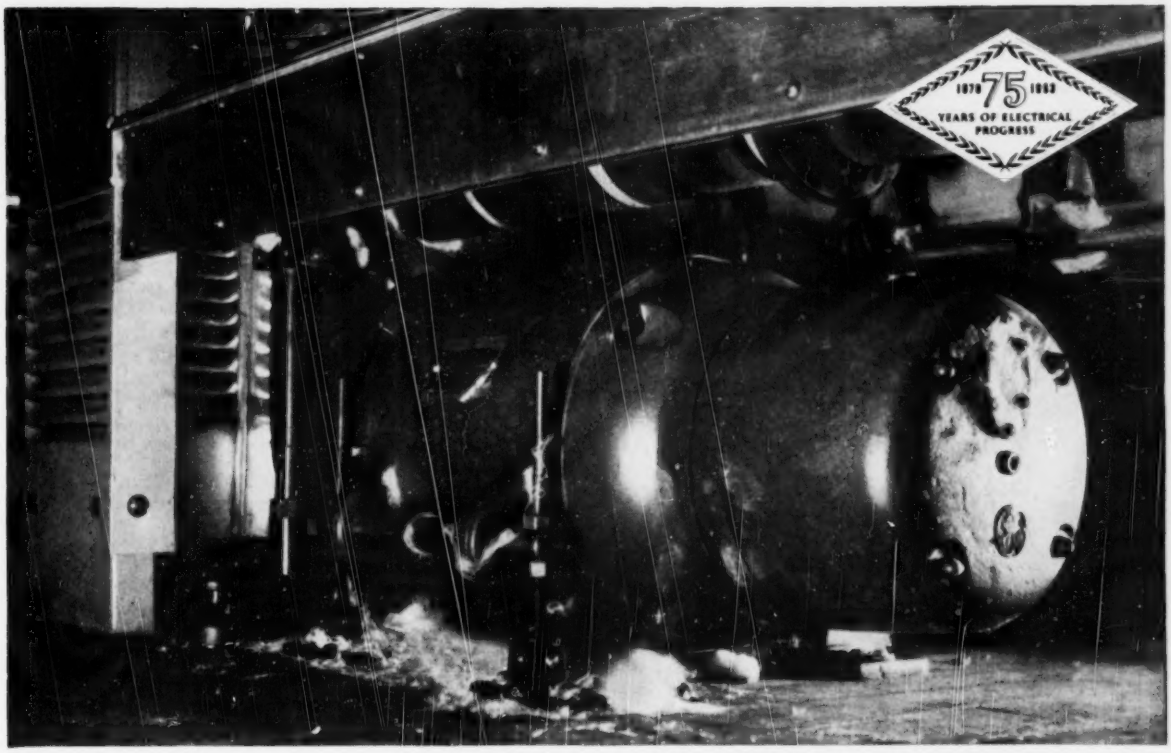
SG-1 Gwaltney spinning frames



MAINTENANCE TIME IS REDUCED because positive lint-expulsion keeps motor clean, large grease reservoirs and convenient pressure-relief fittings make lubrication infrequent and easy—without disassembly.



STREAMLINED MOTOR CONTROL is compact, conveniently-located, designed especially for the SG-1 frame.



AISLE SPACE IS SAVED because compact, totally-enclosed, fan-cooled G-E motor is mounted beneath the SG-1 spinning frame. Non-clogging design of internal cooling fan and fan housing allows free passage of lint-laden air.

driven by new-type G-E motors

Two motor designs—fan- or water-cooled—meet all mill needs

WATER-COOLED DESIGN uses large-diameter Saran tubing wound directly around coil ends—assures maximum cooling efficiency.

Saco-Lowell's new SG-1 Gwaltney spinning frame—the latest in modern textile machinery—required equally new motor designs.

First, Saco-Lowell engineers drew up complete drive requirements. Then they worked with the General Electric design and application engineers who developed the two new types of SG-1 spinning frame motors: one, totally-enclosed, fan-cooled, non-clogging; the other, totally-enclosed and water-cooled.

BOTH MOTORS ARE COMPACT, EFFICIENT, DEPENDABLE

1. They minimize cleaning problems. Both motors are protected against entry of lint.
2. They save aisle space. Both are compactly designed to fit under the spinning frame.
3. They promote even spinning room temperatures.
4. They take varying spinning loads in stride.
5. They simplify maintenance. Grease fittings are conveniently located on sides of motor. Relubrication is easy—and infrequent.

Your G-E apparatus sales representative can give you further details. General Electric Co., Schenectady, New York 654-28

Engineered Electrical Systems for Textile Mills

GENERAL ELECTRIC

New Pickers for Old

Your old pickers can be rebuilt exactly like new machines. The basic design of a picker has not changed in more than 50 years, and therefore a thoroughly modern picker can be built right into the old frames at a big saving in cost. The old frames are valuable, and are just as good as new ones.

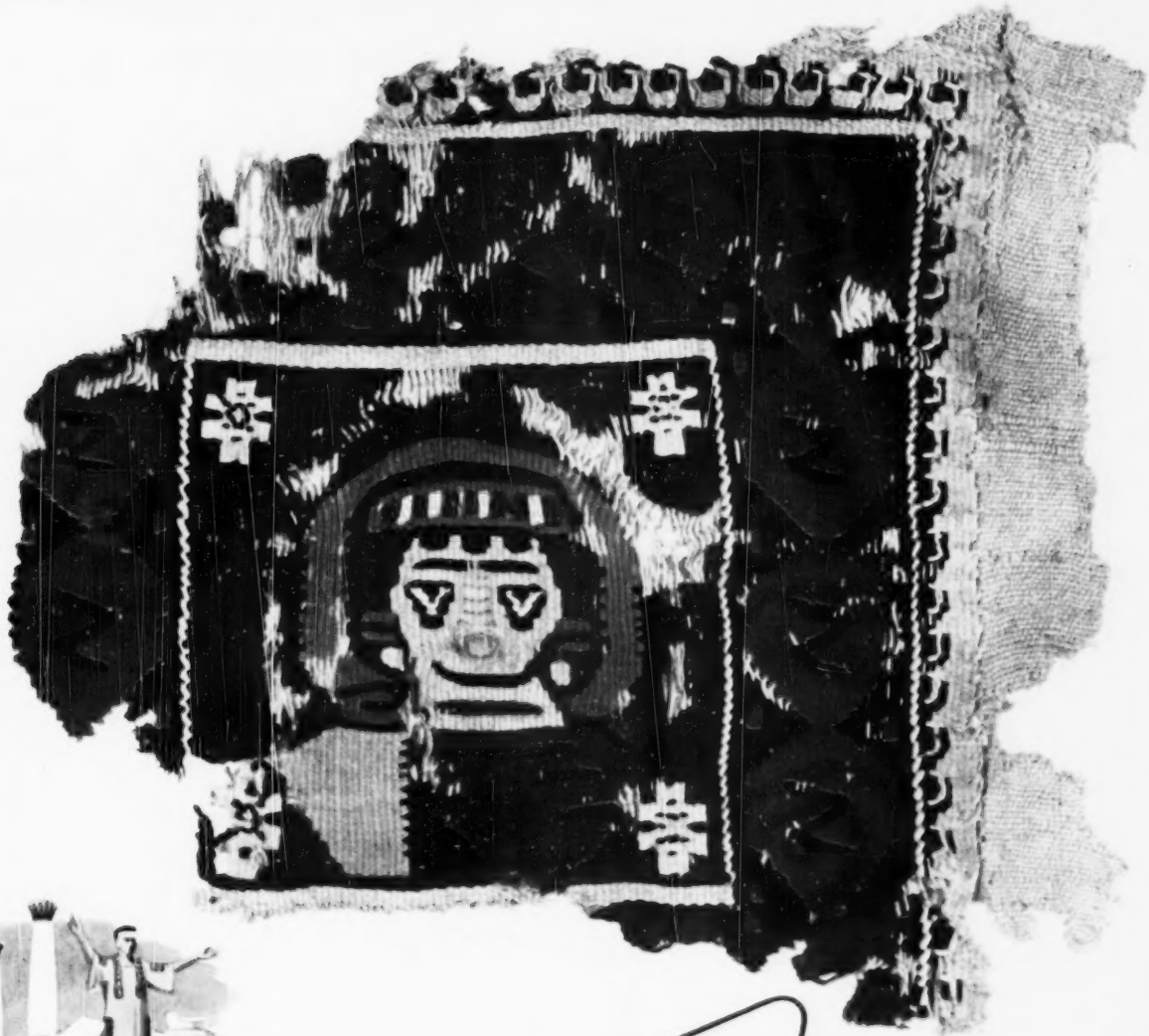
When it is not feasible to send your pickers to us for rebuilding, we will exchange them for rebuilt pickers of the same model. Our truck delivers a new picker at your plant and takes away an old one. The new picker can be making laps the day after it is delivered.

Where pickers do not need complete rebuilding, but should have a thorough overhauling, this work can be done right in your picker room with one of our skilled machinery erectors in charge of the work.

We keep a large stock of picker repair parts always on hand, and fill repair orders within 24 hours after their receipt. In an emergency, telephone us in the morning and you can have the picker repair parts at the mill the following day, if you are within about 500 miles of Greenwood.

Aldrich Machine Works

Greenwood, South Carolina



6th Century Coptic Fabric.
Museum of Art,
R. I. School of Design.

. . . then as now

YARN DYED FABRICS were Supreme

During the Sixth Century A.D., the Egyptian desert swarmed with holy hermits. These Christianized descendants of the pyramid-builders, known as Copts, supported themselves by dispensing blessings to pilgrims — and by looming yarn dyed fabrics like the medallion shown here.

Even then color was used to enrich fabrics, and fabrics whose patterns were created from colored yarns ranked highest in favor and appreciation.

Today, as always, the best fabrics are yarn dyed. For exceptional quality in your colored yarns and expert advice in their use, trust to Franklin Process — yarn merchants and the largest package yarn dyers in the world.

YARN MERCHANTS AND LARGEST PACKAGE DYERS IN THE WORLD

Franklin Process

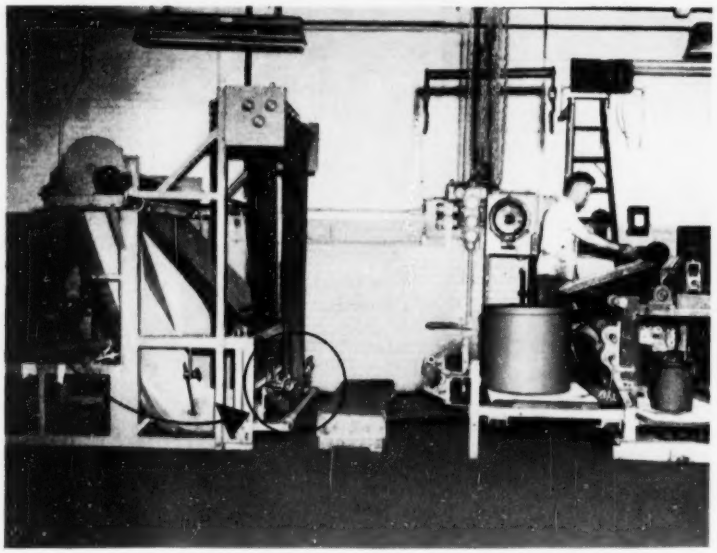
New York Representative — 40 Worth Street
Providence
Philadelphia
Greenville
Chattanooga

Mount Hope
PRECISION GUIDERS

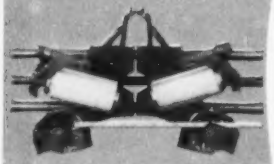
Count the Mount Hope Money-Saving Devices in this

Typical Coating Range Installation*

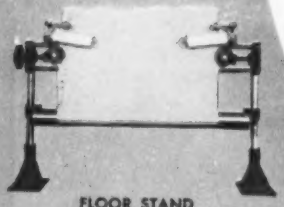
*Courtesy of Interchemical Corporation, Coated Products Division, Buchanan, N. Y.



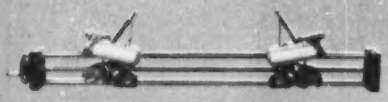
GUIDER HEAD



NARROW FABRICS GUIDING

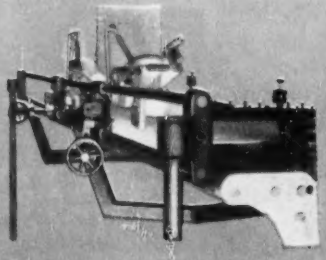


FLOOR STAND



BRACKET STAND

TENTER STAND CLIP TYPE, OR PIN TYPE WITHOUT ELECTRIC FEEDERS



Mount Hope Precision Guiders accurately guide material into coating range. Note also: Continuous Roll Feed with double center bar let-off; Open Width Tension Device to maintain exact tension required; Slack Selvage Eliminator does away with uneven coating. Free Wheeling Expanders completely eliminate costly wrinkles and creases. Duplicate this range for highest quality coating at lowest cost!

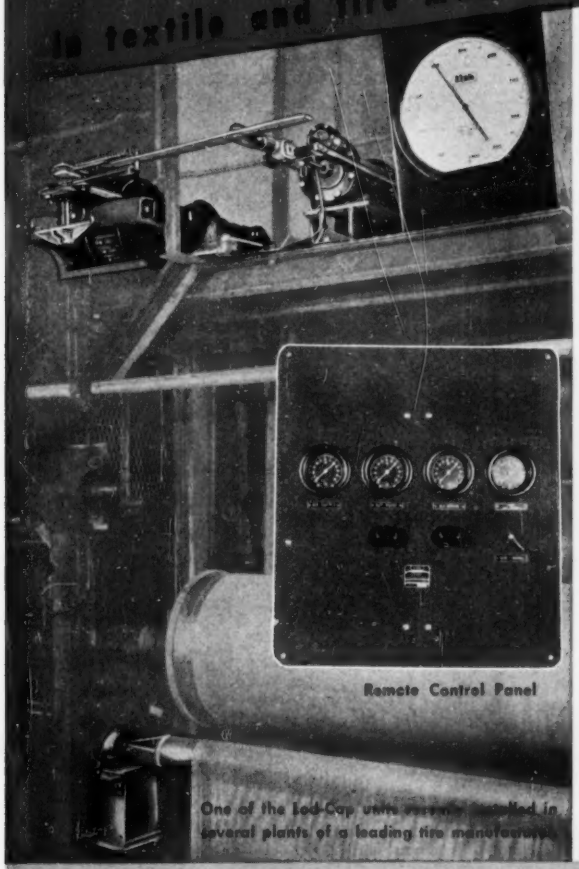
Write for FREE bulletin — Tell us your production setup. Ask for a Mount Hope Engineer to call. No obligation!

MOUNT HOPE
MACHINERY COMPANY

PG 3-15 FIFTH STREET, TAUNTON, MASS.

Put the Brakes on the Breaks with LOD-CAP

In textile and tire manufacture, paper, plastics, tape



One of the Lod-Cap units recently installed in several plants of a leading tire manufacturer

AUTOMATIC *and* Remote Control *of* Fabric Tension

The installation shown at the left may be manually controlled, as in starting a new run. When set for automatic control, the LOD-CAP will instantly correct tension to control point, whenever tension increases or decreases beyond any predetermined setting.

Reduces Breaks and Tears— Cuts Down-Time to a Minimum

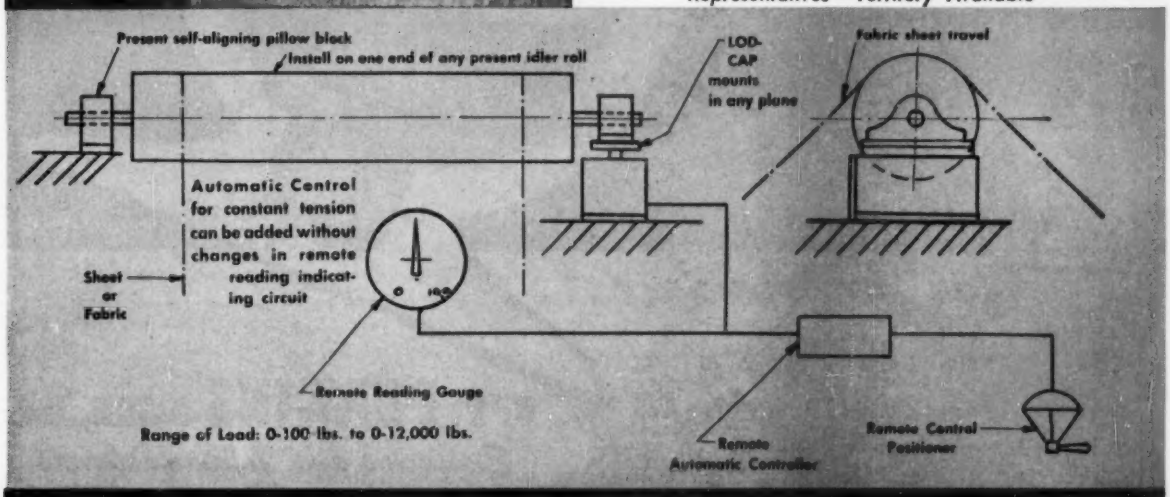
An installation costs approximately $1000 per unit to replace manually operated controls that cost $4000 per unit. Remote control of several machines can be centralized.

Keep Product Uniform with LINK LOD-CAPS

They're small in size, self-contained, easily installed.

Write for Index 4J with complete information about this newest method of tension indication and control

Representatives — Territory Available


Present self-aligning pillow block
Install on one end of any present idler roll
LOD-CAP mounts in any plane
Fabric sheet travel
Automatic Control for constant tension can be added without changes in remote reading indicating circuit
Sheet or Fabric
0
100
Remote Reading Gauge
Range of Load: 0-100 lbs. to 0-12,000 lbs.
Remote Automatic Controller
Remote Control Positioner

Link ENGINEERING COMPANY

13843 ELMIRA AVENUE DEPT. J3 DETROIT 27, MICH.

FORMULA *for performance . . .*

. . . NOT SPECULATION

when you specify PERKINS Rolls. PERKINS Rolls have behind them the longest and broadest experience in the Roll-making industry.

B. F. PERKINS & SON, inc.
Engineers and Manufacturers
HOLYOKE • MASS.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

ALSIMAG®

193

ELECTRICALLY CONDUCTIVE

THREAD GUIDES IN SATIN FINISH

AlSiMag guides are used by every large producer and most major processors of synthetic yarns. Two trends in guides are now evident.

SATIN FINISHES. Most mills processing synthetic yarns have found the SATIN FINISH most satisfactory. Reason: the satin finish gives lighter contact between yarn and guide. Lighter tension means better yarn control, better and faster handling and less generation of static electricity.

ELECTRICAL CONDUCTION. Satin finish cuts down but does not eliminate static on some processes. Electrically conductive guides, properly grounded, will bleed off the remaining static in these processes.

ALSIMAG 193 electrically conductive guides in satin finish meet these requirements. TEST SAMPLES FROM OUR FILES ARE SENT ON REQUEST. The illustration shows only a small part of the designs available.

P. S. ALSIMAG 192 (usually considered our standard material) and ALSIMAG 513 (our hardest, strongest, longest wearing material) also solve many guide problems. Any ALSIMAG guide is available in either the satin or polished finish.

51 ST YEAR OF CERAMIC LEADERSHIP

AMERICAN LAVA CORPORATION

CHATTANOOGA 5, TENNESSEE

NORTHERN AND EASTERN SALES ENGINEER: Jay S. Gosnell, American Lava Corporation, 671 Broad Street, Newark, N. J., Mitchell 2-8159.
ALL OTHER AREAS: J. B. Shacklett, American Lava Corporation, Chattanooga 5, Tennessee, Phone LD-62.

ORDERS FROM HUNDREDS OF DIFFERENT PROCESSORS OF SYNTHETIC YARNS SHOW TWO MARKED TRENDS IN THREAD GUIDES

1. SATIN FINISHES 2. ELECTRICAL CONDUCTION

1200 Pounds Production Per Hour

Battery of Cocker Slashers in a Southern Mill

These Cocker Slashers have several exclusive features which make them far superior to other machines. These are:

1. Differential Friction Compensating Control, which allows continuous high speeds without heating of Friction. This, combined with heavy construction which minimizes vibration, enables them to out-produce other type slashers.

2. The New Cocker Friction, which produces hard beams and gives 20% to 25% more yarn per loom beam.

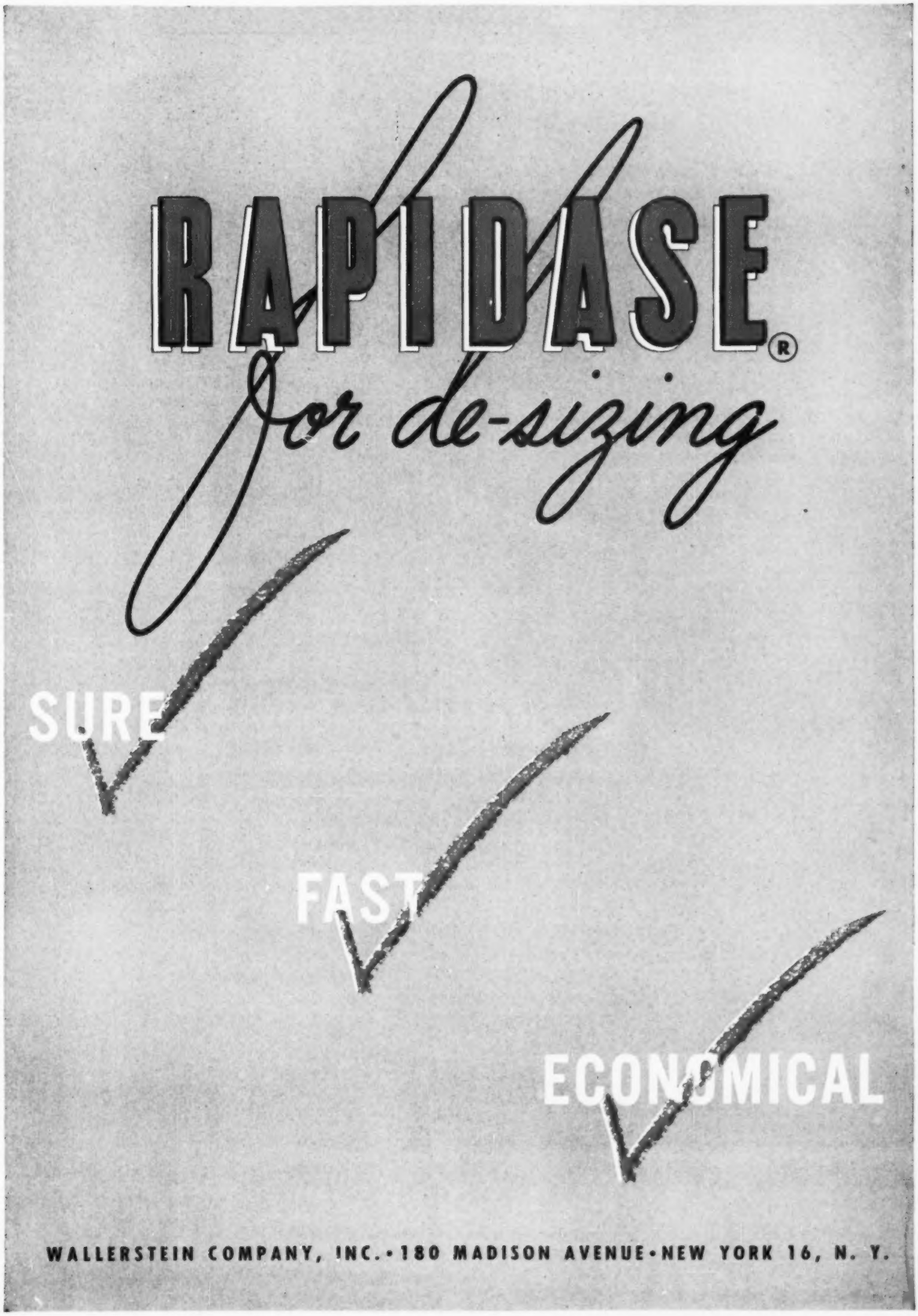
Cocker Slashers have all of the other features required for fast and accurately controlled production . . . among which are graduated drives which permit changes in speed without overrun of beams or strain or jerk on the yarn, push-button control throughout, and finger-tip tension control.

Cocker Slashers are made with 7, 9, and 11 Cylinders and are unexcelled for cotton, spuns, filaments, and other type yarns. Write or wire for full information.

THE LEADER
COCKER
AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT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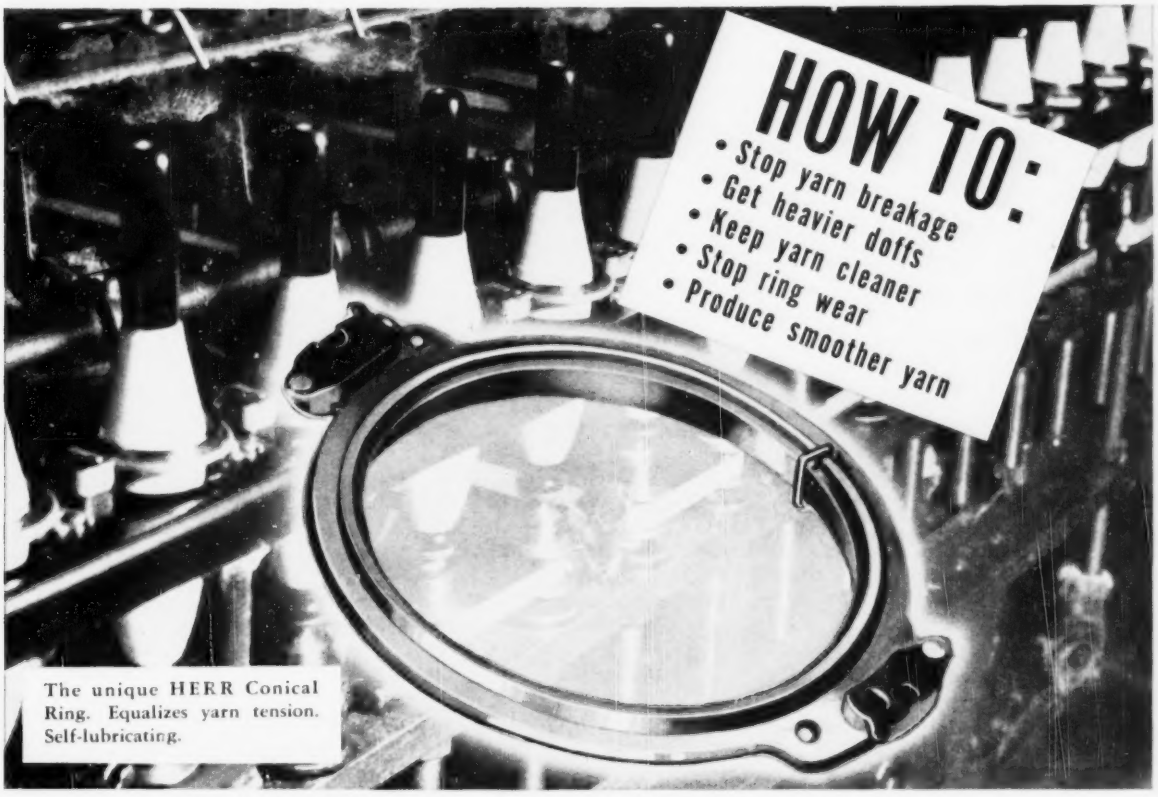

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• HERR Conical Rings adapt your equipment for any textile fiber or blend. Whether you use natural, synthetic or a blend of these fibers, you'll get more production at lower cost with conical rings. And you can get conical rings only from HERR. Whatever spinning or twisting problems you have, you'll find HERR glad to offer friendly advice and engineering counsel. Mail the handy coupon below today for FREE information on HERR Conical Rings.

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Without obligation, send me complete information on how HERR Conical Rings increase production and cut costs!

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THIS IS NO. 96 OF A SERIES ON

GETTING THE MOST FROM TWISTING

Information about twisting designed to show improvements in twisting equipment and new ideas in the twisting operation

HOW TO FIGURE DRIVE PULLEY SIZES QUICKLY

The correct size of drive pulley for a given spindle speed on any of our twisters can be found on a nomograph we have prepared to save you time. For instance:

What size pulley drive should I use to get 14000 r.p.m. spindle speed if I'm using a 1750 r.p.m. motor and the diameter of the spindle whorl is 1¼ inches?

If yours is an everyday job of calculating answers to such questions, this one will give you little or no trouble. But if not, the formula may escape you momentarily, so we are listing formulae here which you may wish to keep on hand. However, with the nomograph you can determine more quickly the spindle speed that can be obtained with a given driving pulley diameter, or the driving pulley diameter required for a given spindle speed on any of our Uptwisters or our Universal Model 10 Ring Twisters.

In the formula: —

M = Motor Speed r.p.m.
S = Spindle Speed r.p.m.
D = Driving Pulley Diameter in Inches
d = Whorl Diameter in Inches

1. To find the driving pulley diameter for a required spindle speed:

$$D = \frac{S \times d}{M}$$

Example: S = 14000 r.p.m.; d = 1.25 in.; M = 1750 r.p.m.

$$D = \frac{14000 \times 1.25}{1750} \qquad D = 10 \text{ Inches}$$

2. To find the spindle speed:

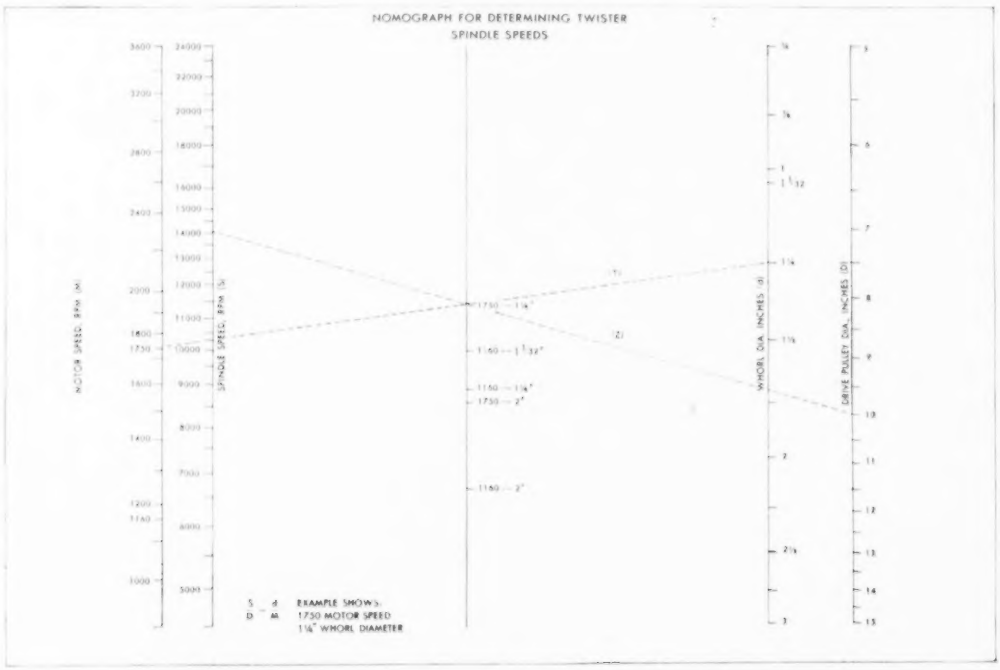
$$S = \frac{M \times D}{d}$$

Example: D = 10 in.; d = 1.25 in.; M = 1750 r.p.m.

$$S = \frac{1750 \times 10}{1.25} \qquad S = 14000 \text{ r.p.m.}$$

Keep in mind, however, that belt slippage, variations in belt thickness and motor speeds under load will cause the actual spindle speed to deviate slightly from the calculated figures. Spindles should be checked periodically to check their actual running speeds under these variable conditions.

The nomograph shown here is reproduced in a larger size in our publication "Twists and Winds" No. 96. We will be glad to mail it without charge to anyone not now receiving it.



Nomograph prepared by Universal engineers for calculating spindle speed or pulley size.

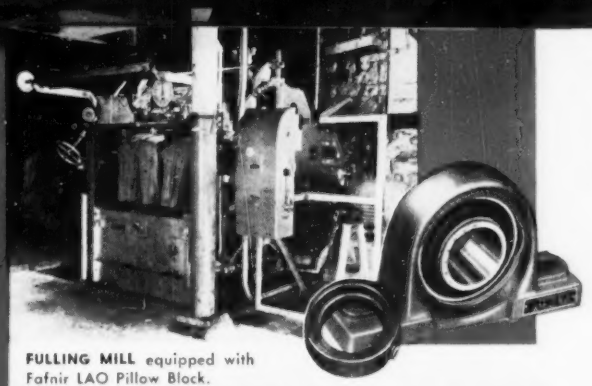
23.2.14

December, 1952

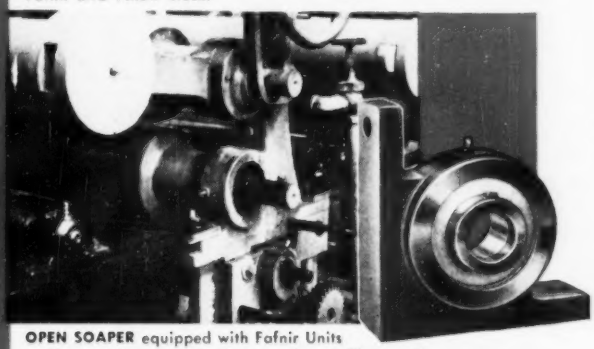
WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL WINDING COMPANY

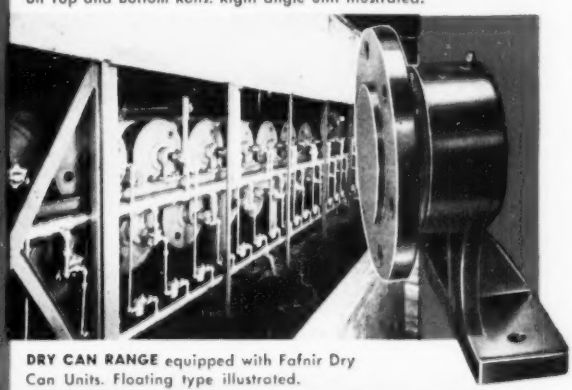
PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON



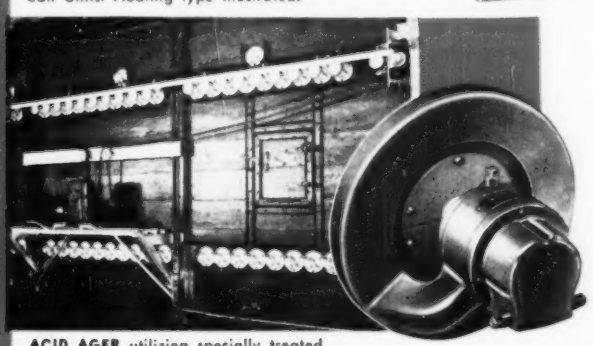
FULLING MILL equipped with Fafnir LAO Pillow Block.



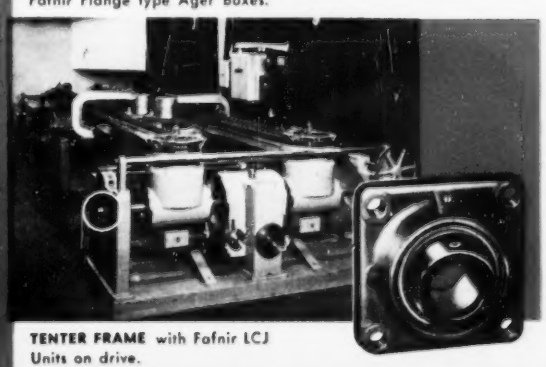
OPEN SOAPER equipped with Fafnir Units on Top and Bottom Rolls. Right angle unit illustrated.



DRY CAN RANGE equipped with Fafnir Dry Can Units. Floating type illustrated.



ACID AGER utilizing specially treated Fafnir Flange type Ager Boxes.



TENTER FRAME with Fafnir LCJ Units on drive.

TURNING POINTS to timely economies in Finishing Operations

If you are interested in reducing costs as well as increasing production, take a second look at Fafnir Ball Bearing Textile Units from this angle.

Like other textile mill operators, you may be able to avoid the use of special bearings and their attendant heavy costs by installing Fafnir Textile Units. There are several standard units expressly designed for textile finishing machines. With Fafnir Units, you have no special housings or lubricating systems to consider, no costly machining . . . installation is a matter of minutes, not hours. Where these units have replaced plain bearings, mill men are realizing several timely operating economies . . . lower power consumption, less frequent lubrication, less lubricant, fewer roll settings, a reduction in material spoilage and machine downtime.

Consider AGERS as a specific example . . . Fafnir Textile Units help to make possible a free, uniform pull over the rolls. In addition, these units are designed to retain lubricant in high temperatures. They're made to resist the effects of corrosive atmosphere too . . . thus cutting down on maintenance and replacement costs.

Get aquainted with the complete line of Fafnir Textile Units and its possibilities for producing economies in your plant finishing operations. Write for catalog of Textile Units. The Fafnir Bearing Company, New Britain, Conn.

Other Finishing Machines where FAFNIR Ball Bearings are used

- Printing Machines
- Dryers
- Button Breakers
- Dye Paddles
- Dye Kettles
- Dye Jigs
- Folding Machines
- Starch Mangles
- Squeeze Rolls
- Calender Stacks
- Calender Chasing Rolls

FAFNIR
BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

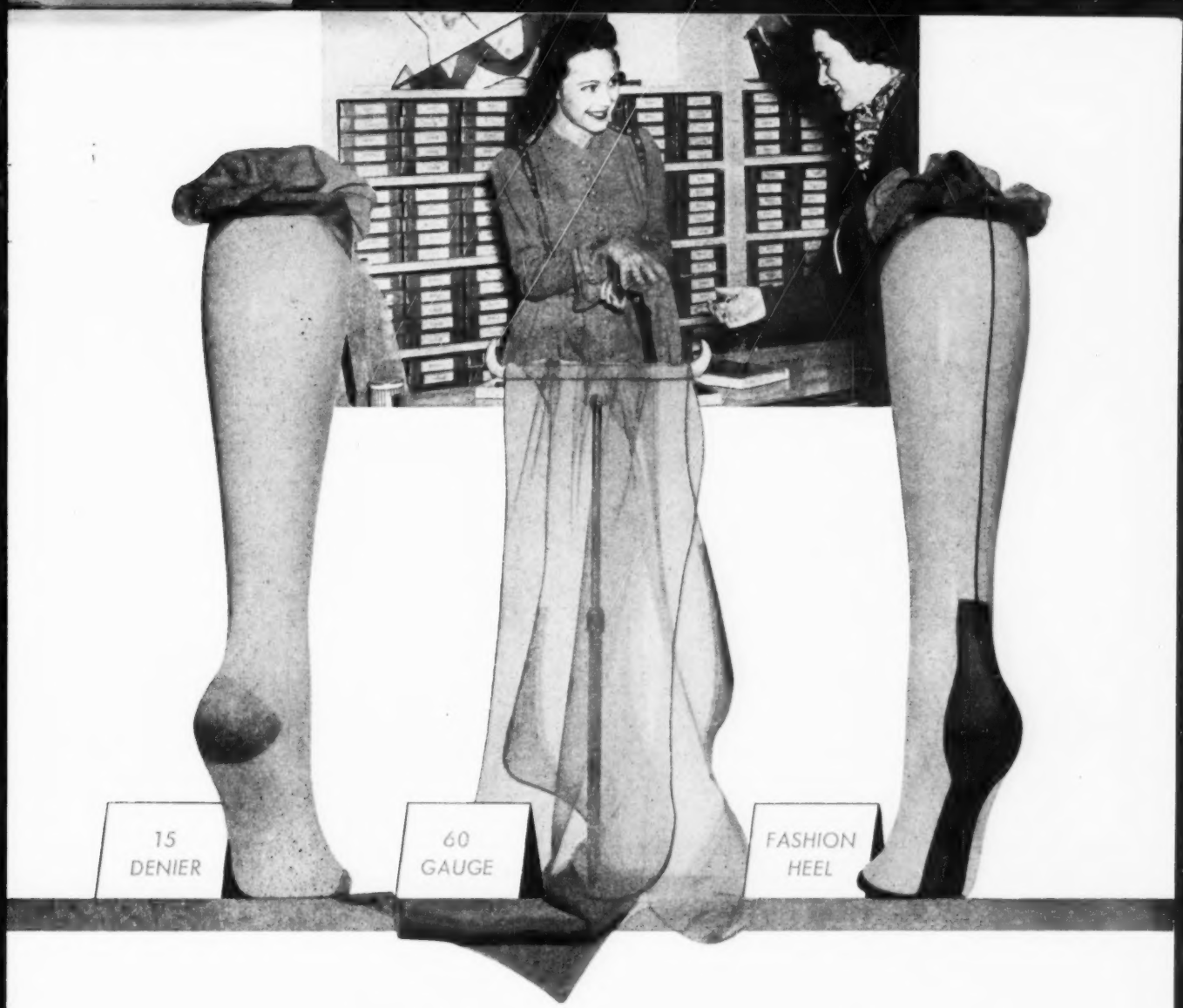
"Oh, that reminds me, B. J.— have you noticed that Swift's Soaps have excellent physical form?"

Take the textile men we know—just about everything seems to remind them of Swift's Soaps. While our illustration may be a slight exaggeration, reports from countless successful textile producers show a tremendous enthusiasm for Swift's Soaps. Here are some of the reasons why:

- **Swift's Soaps** are outstanding performers in dyeing, fulling, scouring and other specialized operations.
- **Swift's Soaps** feature the right soap product for *every* textile need.
- **Swift's Soaps** are characterized by excellent physical form . . . proper uniformity of composition.
- **Swift's Soaps** are backed by our years of specialized experience . . . readiness to apply our resources to help you solve your particular soap requirements.
- Swift's distribution points from coast to coast are strategically located to assure prompt delivery of these and other fine Swift's Soaps:

Vertex Flakes • 557 Flakes
White Ribbon Chips • Wool Flakes

Call **SWIFT** first for **SOAPS**



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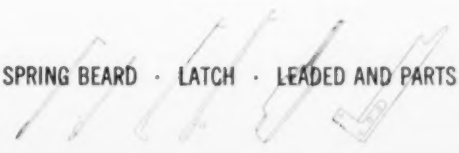

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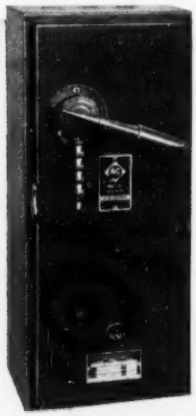
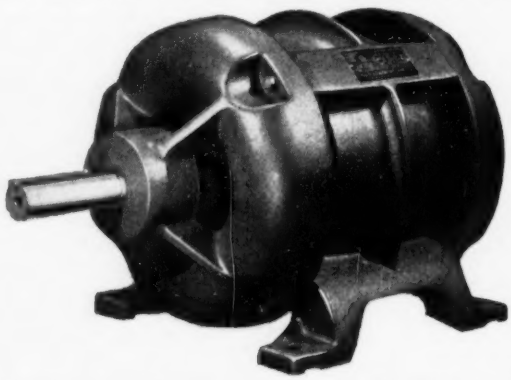
From Power Line to Machine

ALLIS-CHALMERS

TEXTILE DRIVES





YOU WILL SAVE MONEY by getting your complete machine drives from one dependable source. When you use Allis-Chalmers coordinated drive components, you can be sure that they will be installed easily and quickly and that they will work together to give you dependable service at lowest possible cost. One reliable manufacturer guarantees the satisfactory operation of your complete machine drive.

COMPETENT APPLICATION ENGINEERING

Allis-Chalmers application engineers, practical men with an intimate knowledge of the textile business, will help you select the best combination of motor, drive and control for your particular requirements.

If you are building a new mill or modernizing your old mill for higher speed operation and lower costs, discuss your drives with the Allis-Chalmers representative in your territory. He can help you plan for more profit. Allis-Chalmers, Milwaukee 1, Wisconsin. A-3708

Texrope, Quick-Clean and Vari-Pitch are Allis-Chalmers trademarks.

Allis-Chalmers Textile Specialists

are located in the following cities:

Atlanta, Georgia
Birmingham, Alabama
Boston, Massachusetts
Charlotte, North Carolina
Chattanooga, Tennessee
Dallas, Texas
New Orleans, Louisiana
Richmond, Virginia

Better Together

MOTOR CONTROL

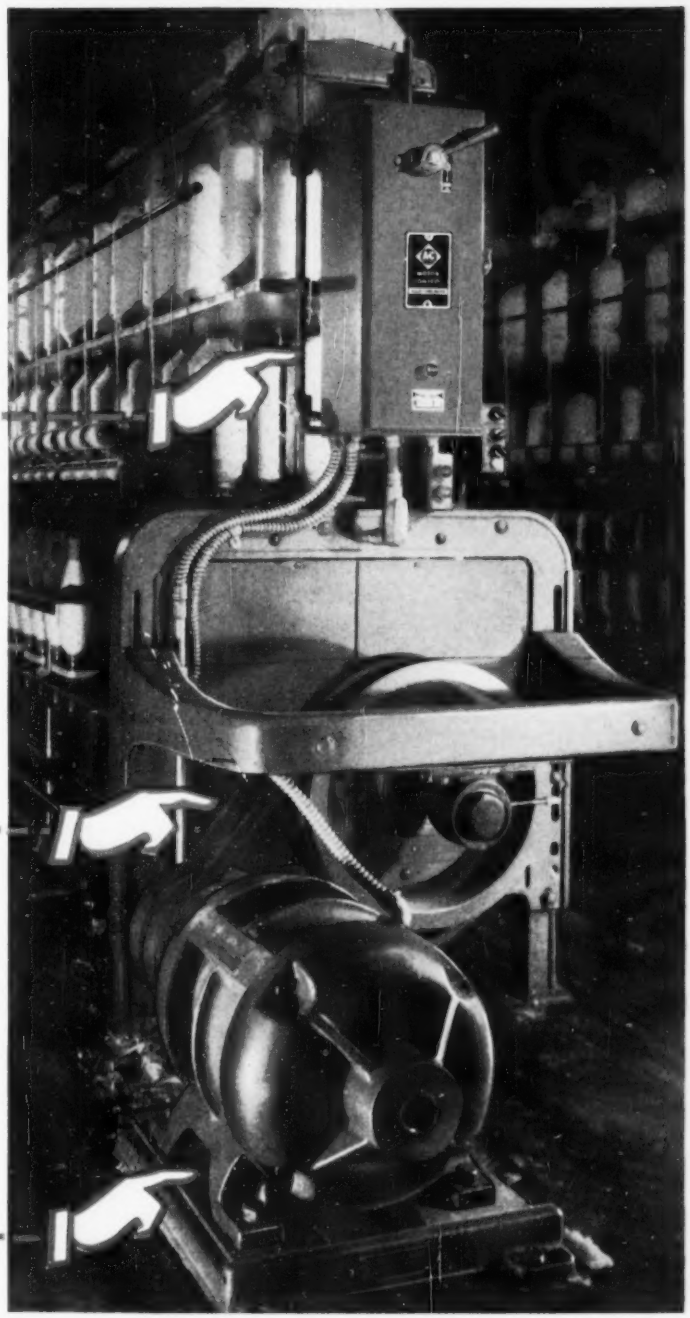
Standard types of textile motor control built to operate with Allis-Chalmers loom motors, *Quick-Clean* motors and all other Allis-Chalmers motors used in the textile industry. This is a full voltage AC magnetic starter with fusible disconnects which provides overload and undervoltage protection. Other starters are available for special service such as slow speed starters for card drives, loom switches and many other types preferred by textile mill operators. Enclosures may be lint-proof with interlocked cover handles for safety.

TEXROPE DRIVE

Texrope V-belt drives, the original multiple V-belt drives for textile machinery, are available in both fixed and variable speed types. More and more mills are finding that the moderate extra cost of *Vari-Pitch* sheaves comes back many times in increased machine versatility and more precise quality control as well as reduced down-time for change-overs. With either Stationary Control or Motion Control *Vari-Pitch* sheaves, speeds can be accurately adjusted quickly and easily. Wide Range *Vari-Pitch* Sheaves cover complete operating range of most machines with one drive.

TEXTILE MOTOR

Quick-Clean motors are of special wide-open design which cannot trap lint, overheat and burn out. Powerful fans sweep lint-laden air into the motor and right out again through large, unobstructed ventilating openings. All internal air passages are smooth, hard and streamlined so that lint cannot lodge. *Quick-Clean* motors are built with special acceleration and torque characteristics to meet special requirement of roving frames, cards and other machines. A special totally-enclosed, non-ventilated loom motor also is available.



ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry

'Round the World 1113 times for $1.00

Calculations based on performance records of Victor 4/0 F1.1 X3D Travelers show that one dollar's worth ran about 27,840,000 miles — 1113 times the distance around the equator.

When you see performance like that, it's easy to think that traveler costs are too small to be worth bothering about. But such records are achieved only when you choose the right traveler for the job, and get the best that money can buy.

Selecting travelers carelessly, without proper regard for quality, will quickly cut down the "mileage". Also, excessive ends down, plus frequent traveler changes, can boost your traveler-pound cost in yarn production far out of line.

When you choose Victor Travelers, a Victor Service Engineer will help you make sure to get the traveler best suited to your individual spinning or twisting. You also get extra long traveler-life, because Victor Travelers take top honors in any test for quality and uniformity.

Remember, traveler costs per pound of yarn depend, *never* on price, *always* on performance. Plan now to talk to a Victor man, whether you are running conventional fibers, synthetics, or blends. Write, wire or phone the nearest Victor office . . . for prompt service.

•

VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

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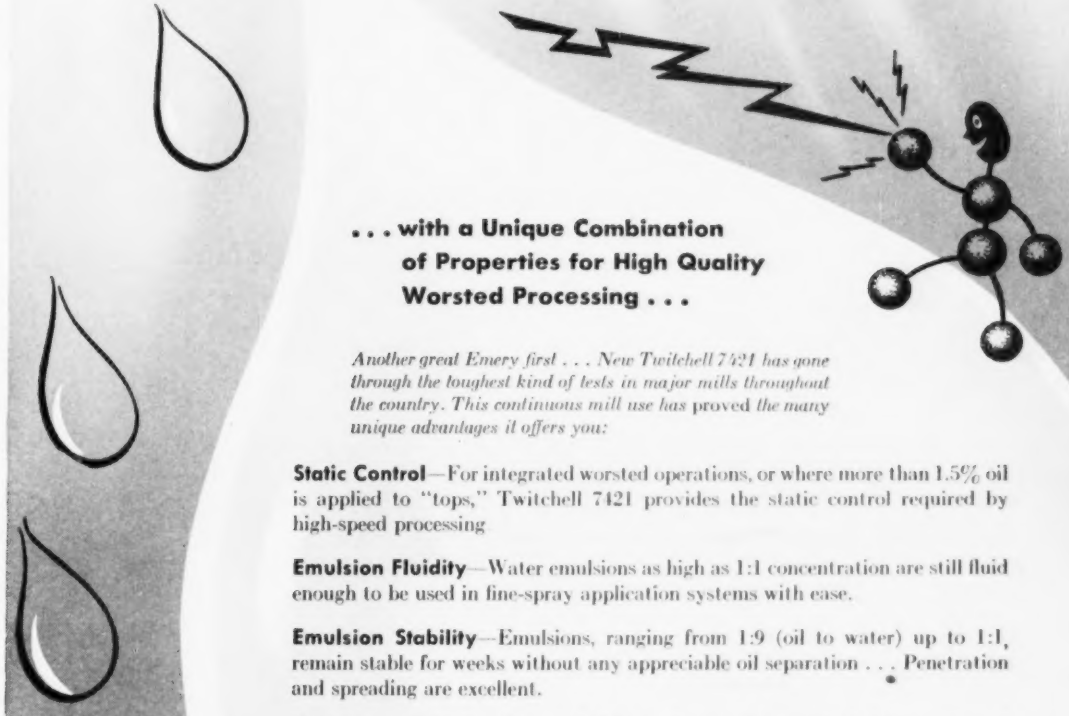
IF STATIC IS A PROBLEM . . .

Get New Twitchell 7421 Worsted Oil



. . . with a Unique Combination of Properties for High Quality Worsted Processing . . .

Another great Emery first . . . New Twitchell 7421 has gone through the toughest kind of tests in major mills throughout the country. This continuous mill use has proved the many unique advantages it offers you:

Static Control—For integrated worsted operations, or where more than 1.5% oil is applied to "tops," Twitchell 7421 provides the static control required by high-speed processing.

Emulsion Fluidity—Water emulsions as high as 1:1 concentration are still fluid enough to be used in fine-spray application systems with ease.

Emulsion Stability—Emulsions, ranging from 1:9 (oil to water) up to 1:1, remain stable for weeks without any appreciable oil separation . . . Penetration and spreading are excellent.

Resistance to Yellowing and Odor—Repeated tests, both laboratory and plant, show that fabrics treated with Twitchell 7421 do not "heat-up," yellow, or develop odors on aging . . . particularly important for dry-finished fabrics.

Excellent Scourability—An average residual oil content of 0.3% is easily obtained in normal plant scouring, even after prolonged aging. This excellent scourability minimizes soap costs.

Rust Preventive—Emulsions of 7421 are effective inhibitors of corrosion and rust . . . reduce your service problems.

Write for Technical Bulletin ⇩
packed with important and useful information about Emery's new Worsted Oil. Mail coupon now.

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Warehouse stocks also in St. Louis, Buffalo, Baltimore and Los Angeles

Emery Industries, Inc.
Dept. T-1, Carew Tower, Cincinnati 2, Ohio

☐ I would like to run a mill trial of new Twitchell 7421 Worsted Oil as soon as possible.

☐ Please send the Technical Bulletin at once.

Name.....
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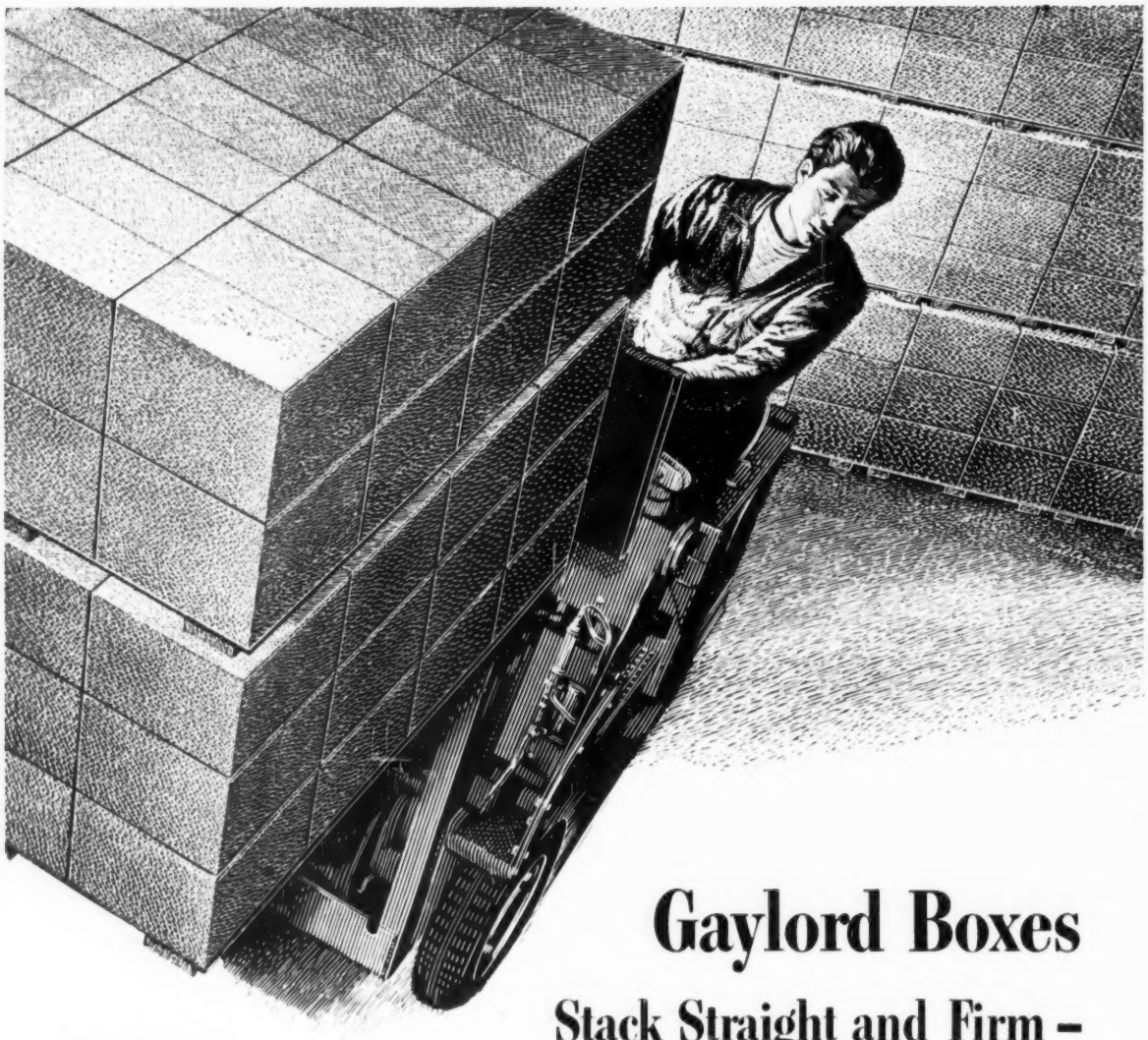
Firm.....
Address.....
City.....Zone.....State.....



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Gaylord Boxes

Their unseen quality gives you an extra margin of safety.

The strong, rigid corrugations of Gaylord Boxes plus their accurate scoring assure flaps that close perfectly.

This controlled quality means a real saving of time and labor—as well as tempers—on the production line as well as in the warehouse.

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No. 29 of a series

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DYESTUFF DEPARTMENT, Bound Brook, New Jersey

Calco

For Fastness Before and After Resin Treatment...

Calcodur* Resin Fast Blue 2R and Calcodur Resin Fast Blue 2G are fast-to-light direct blues, developed especially for dyeing fabrics which are subsequently resin-treated. Their

outstanding properties are fastness to light and washing on viscose or cotton after the resin finish.

Ease of matching the final shade is assured to the dyer and finisher, because a minimum shade change is produced by resin finishes. Even in light shades they will withstand more than the usual requirements of forty Fade-Ometer hours. They exhibit ratings of four to five when given a No. 3 rayon wash test. Since these dyes leave acetate white, they are highly recommended for the dyeing of high quality acetate-viscose fabrics such as suitings.

They are bright and very level-dyeing, and will build up economically into rich medium to heavy shades. These two blues, alone and in combination, will provide a wide range of pleasing blue shades; or they can be used with other resin fast dyes to produce, with superior fastness, the numerous popular shades which are in current demand.

*Trade-mark

A Progress Report on Printing

Mechanization of textile coloring methods continues. Many processes, once complex and time-consuming, are now done by continuous methods with less handling and greater production.

Keeping pace with this trend, new screen printing machines have been developed which have successfully mechanized former hand operations. These machines take cloth from a roll, print and deliver it dried, ready for further processes of color fixation.

Our line of Calconyls in a wide range of powder and solution types, supplemented by the Calco soluble vats, will meet the requirements of progressive printers.

Calconyl* Blue G	Calconyl Golden Yellow R
Calconyl Scarlet R	Calco Soluble Vat Gray
Calconyl Red B	Calco Soluble Vat Blue 2B
Calconyl Red G	Calco Soluble Vat Brown RR
Calconyl Red GB	Calco Soluble Vat Orange R
Calconyl Red R	Calco Soluble Vat Pink FF
Calconyl Violet B	Calco Soluble Vat Scarlet HB
Calconyl Yellow G	Calco Soluble Vat Violet 6R
Calconyl Yellow 2GR	

In some cases Calconyls are finished in more than one form, such as single and double solutions and powders.

A Respected Member of an Old Family—Calcomine* Brown M

From the standpoint of age, Direct Brown M is one of the oldest and best known of the direct dyeing browns; and because of its rich, chestnut brown shade, it is one of the most useful colors in this group.

Calcomine Brown M can be applied on all classes of cotton, rayon and viscose materials as well as silk and wool. It is suitable for dyed ground shades for colored discharge printing. Its fastness properties are improved by aftertreatment with copper sulfate or bichromate, or by diazotization and development.

The color can be dyed on wool, producing shades of excellent fastness to washing and to sea water. In union materials, the cotton, viscose and wool are dyed to about the same depth of shade.

Calcomine Brown M is especially recommended for package dyeing. It also enjoys wide use in dyeing of skein yarns and hosiery goods.

For the Textile Bookshelf

Aniline Black (*Calco Tech. Bulletin No.* 821). A timely review of the important methods for Aniline Blacks, which are enjoying increasing acceptance from cotton and rayon printers. The fastness properties, uses and application methods of the various Aniline Blacks are discussed and fully described.

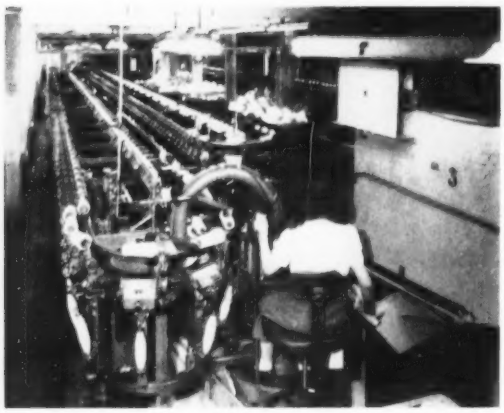
Application of Dyes to New Synthetic Fibers (*Calco Technical Bulletin No.* 826).

A carefully compiled record of existing data on the new synthetic fibers. Dyeing methods for the coloring of the new synthetic fibers and fastness properties to look for are covered in this study.

There are 113 Ph. D.'s, 44 Masters of Science and 407 Bachelors of Science employed at Calco.

Complete Automatic Winding Systems for Rewound Filling

to take advantage of large package spinning, more yarn on filling bobbins, more uniform bunches, better weaving bobbins, and inspected yarn, all of which go to make a better fabric.



Abbott Traveling Spindle Package Winders

Automatic Cone or Tube Winders for warping, dyeing, twisting, quilling, sales.

Can be equipped with any one of a variety of slub catchers and inspection devices.

Production up to 1000 bobbins per hour per operator.

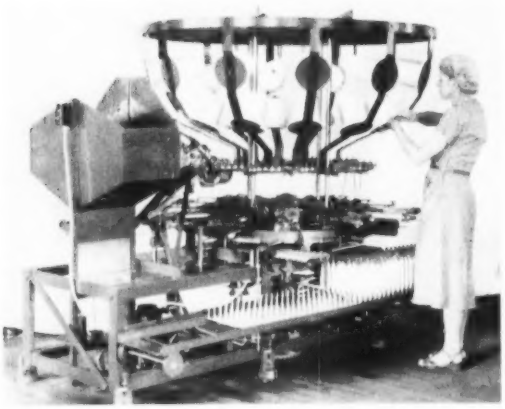
Abbott Traveling Spindle Automatic Quillers

For winding cotton, spun rayon, worsted, etc., equipped to doff automatically into baskets, or stack automatically into boxes.

For rewinding woolen yarn from mule and ring frames.

For winding filament rayon and nylon, etc., with automatic pinboard attachment or wide belt inspection conveyor.

Production up to 2000 bobbins per hour per operator.



Abbott Fully Automatic Radial Quiller

This new quiller has been developed to bring complete automatic quilling to highly diversified mills and the small mills.

For winding cotton, spun rayon, filament rayon, worsted, wool, etc.

Can be arranged to deliver bobbins to Pinboard Attachment, or into baskets, or onto wide belt conveyor.

Production up to 2000 bobbins per hour per operator.

ABBOTT MACHINE CO., INC.

WILTON, NEW HAMPSHIRE

SOUTHERN SALES AND SERVICE: GREENVILLE, S. C.

Your customers' changing world

Today isn't yesterday . . . not by a long shot. As anyone can tell you, today's TODAY. A day when more people are traveling, more women are working, when Americans everywhere are living fuller, busier lives.

To meet the pace of today's streamlined, modern, timesaving, effort-saving living—textiles must offer new values engineered right into fabrics that fit the scheme of modern living.

Du Pont's modern-living fibers open the door to what your customers want today—beautiful fabrics that wash and dry faster, need less ironing, wear longer, are easier to care for! And they open the door to profits for you—because they are *sales* advantages that are keyed to the way America lives!

You're riding in the main stream of a trend when you conceive, when you create, when you feature fabrics with extra values, fashions with new practicality, from modern-living fibers made by Du Pont.

DU PONT'S MODERN-LIVING FIBERS

NYLON | RAYON | ACETATE | ORLON® ACRYLIC FIBER | DACRON® POLYESTER FIBER

DU PONT

Teamwork

The brewer's white horses, pulling together, was a stirring sight in the Gay 90's. Today, the proud Percherons, groomed for parade, have another job to do . . . but teamwork is just as vital as it ever was.

What can we do to help insure the future of your business? That's what Butterworth engineers have been asking for 131 years — the question has special meaning today.

Thinking of new machines? We will do the utmost to meet your requirements. Making long range plans? Our engineers are at your service. Even now they are teamed with many of America's leading mills, thinking of the years ahead and planning with them to maintain their competitive position.

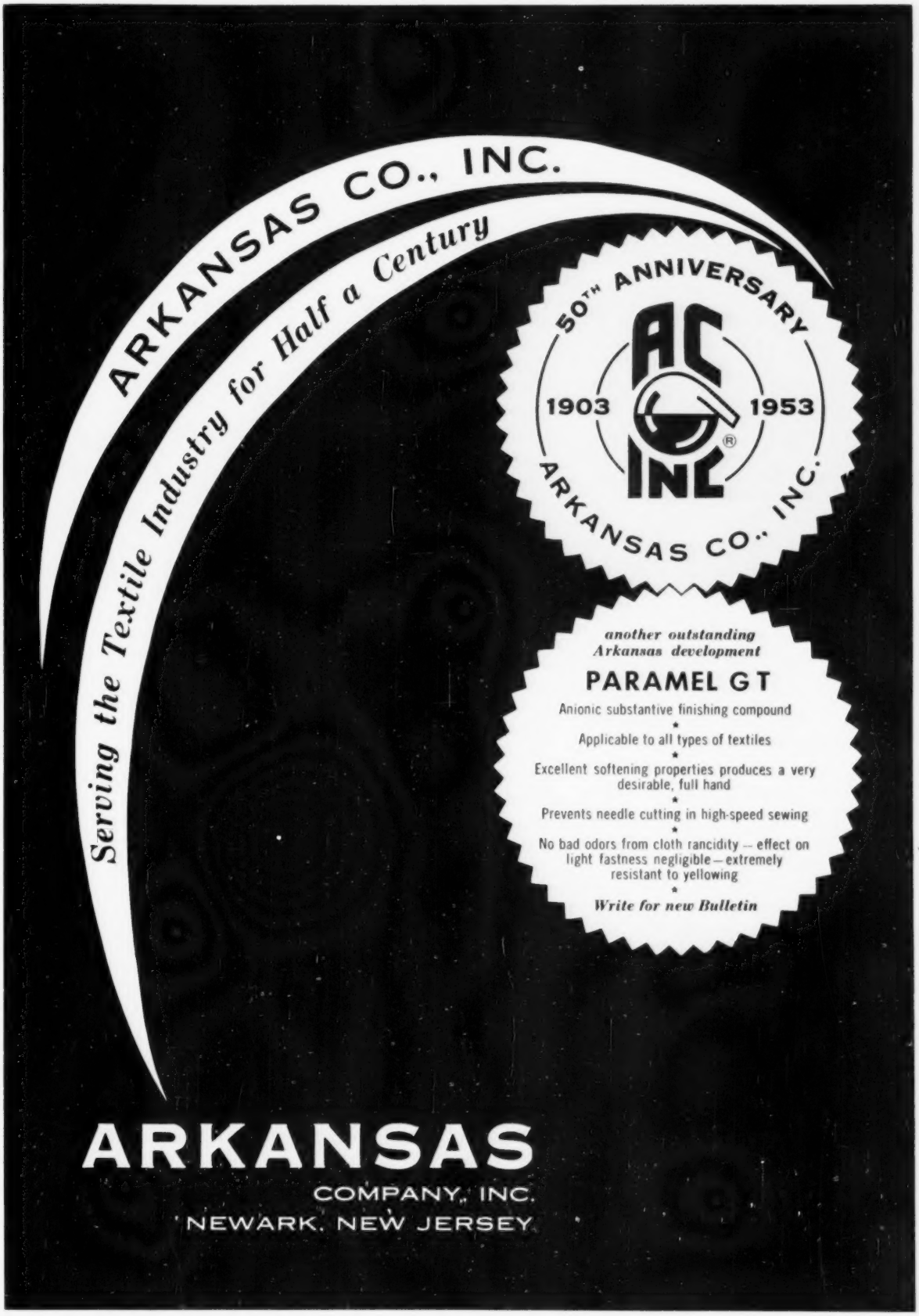
Butterworth service is offered too, to help your wet finishing department get the most out of what you now have — to keep equipment at peak efficiency. It may be only a spare part you need — but if you need it in a hurry, you'll get it in a hurry if it is humanly possible.

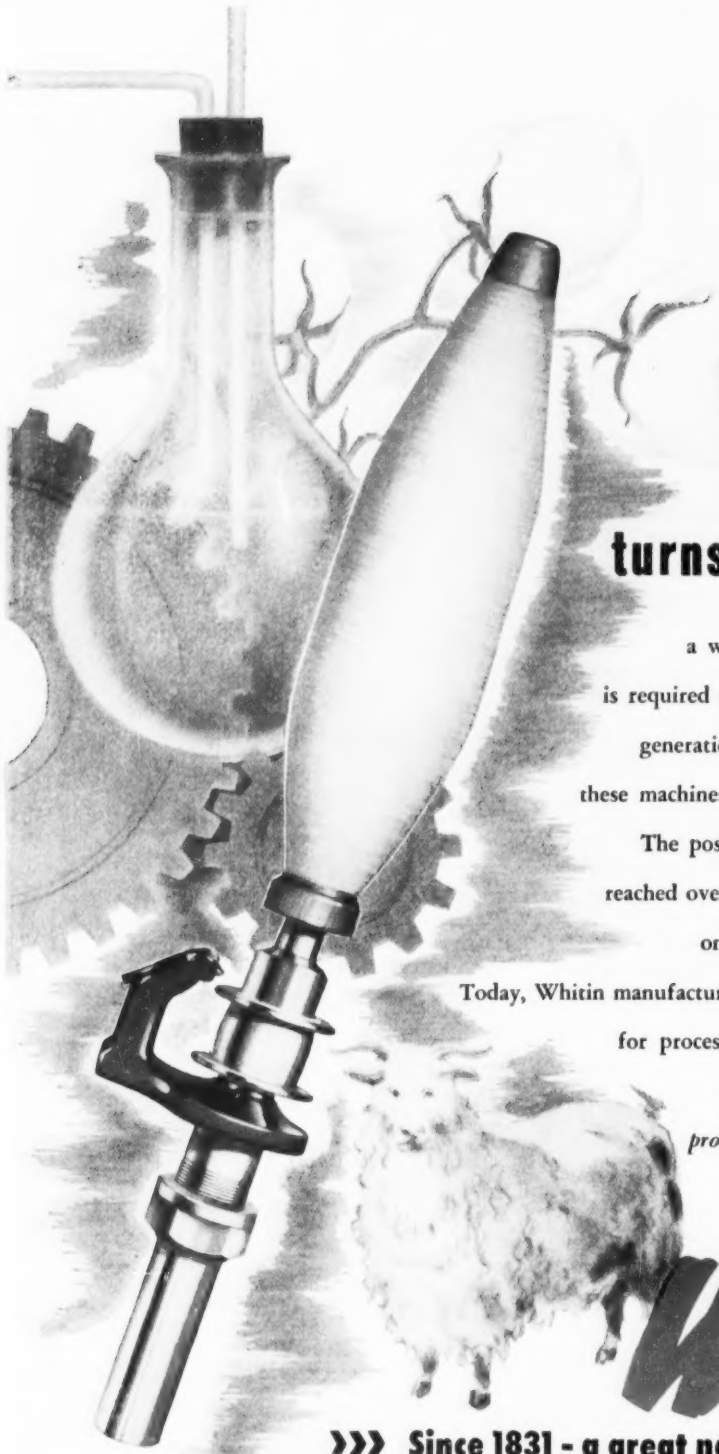
A letter, a wire or a phone call will put a Butterworth engineer on your team.

H. W. BUTTERWORTH & SONS COMPANY
Bethayres, Pennsylvania

1211 Johnston Bldg., Charlotte, N.C. • 187 Westminster St., Providence, R.I.
Machines for Bleaching, Boiling-Out, Mercerizing, Dyeing, Finishing and Embossing : : Pot Spinning Machines for Synthetic Fibers
Calender Rolls : : Tenter Chains

BUTTERWORTH


ARKANSAS CO., INC.
Serving the Textile Industry for Half a Century
50TH ANNIVERSARY
1903
1953
AC
INC
ARKANSAS CO., INC.
another outstanding
Arkansas development
PARAMEL GT
Anionic substantive finishing compound
Applicable to all types of textiles
Excellent softening properties produces a very desirable, full hand
Prevents needle cutting in high-speed sewing
No bad odors from cloth rancidity — effect on light fastness negligible — extremely resistant to yellowing
Write for new Bulletin
ARKANSAS
COMPANY, INC.
NEWARK, NEW JERSEY



Whenever man turns fibers into yarn...

a wide variety of highly specialized machinery is required to accomplish this complicated process. For generations, Whitin has been engaged in supplying these machines to textile mills in all parts of the world. The position of leadership in this field that Whitin reached over a century ago and maintains today is based on its policy of "Progress Through Research". Today, Whitin manufactures a complete line of preparatory machinery for processing practically all fibers, both natural and synthetic. For the best in modern, efficient, *profit-producing* machinery – buy from Whitin.

Whitin

»» Since 1831 - a great name on textile machinery ««

MANUFACTURERS OF MACHINERY FOR: OPENING • PICKING
CARDING • COMBING • DRAWING • ROVING • SPINNING
TWISTING • WINDING, AND FOR MANY OTHER PROCESSES

WHITIN MACHINE WORKS • WHITINSVILLE, MASS.

CHARLOTTE, N.C. • ATLANTA, GA. • SPARTANBURG, S.C. • DEXTER, ME.

MADE FROM *Your* WASTE or STAPLE FIBERS with

RANDO-FEEDER AND RANDO-WEBBER

NEW PROFITABLE PRODUCTS

Research work on new products is keeping pace with the many types of non-oriented webs produced by the RANDO-FEEDER and RANDO-WEBBER. In the past few months a number of new products have come on the market. Because non-oriented webs have strength in all directions, resilience, resist delamination and splitting . . . have a wide range of weights and thicknesses (from ½ ounce to 20 ounces a square yard, from paper thin to 2 inches depending on the fiber used) many types of product are possible. Research work now under way promises the introduction of many new materials, some of which may not even be recognized as textile products.

Your waste and staple fibers can make additional profits for you.

WRITE for NEW Bulletin No. 102. Inquiries are welcome.

TEXTILE DIVISION
CURLATOR
CORPORATION
EAST ROCHESTER, NEW YORK

Jenny doesn't live here any more!

YES, in the modern coal mine there's no room for Jenny. Today her job is done by powerful electric locomotives capable of pulling 50 times the load Jenny used to haul to the mine surface.

As a matter of fact, in the modern mine even the traditional pick and shovel are as out-of-place as Jenny herself! More than 90% of *bituminous* coal is now mechanically cut, and over 70% is mechanically loaded. Result: more economical coal to light the way, fuel the fires, power the progress of America.

But, basically, what caused Jenny to disappear? What's behind American industry's evermore efficient machines that turn out goods at lower cost—thus making them available to more people? One word tells the story—COMPETITION.

In the coal industry there are 5,000 privately managed coal companies competing with one another and all competing in the market with other fuels. When one coal company develops more efficient mining methods, the rest can keep pace only by striving to improve even further. No wonder that with his modern machines, developed through competition, the American miner's daily output is 4 to 24 times that of any miner in Europe or Asia—most of whom work in government-controlled coal industries.

Just as competition spurs *you* on to trying harder—it's competition that goads the individual company to deliver products that will outsell others. And it's competition that keeps a whole industry on its toes, cutting distribution costs, opening up new outlets, and delivering better products.

Competition—not government control—has already made America the most productive nation on earth. Competition—not regimentation—points the way to ever greater plenty for all of us.

★ ★ ★

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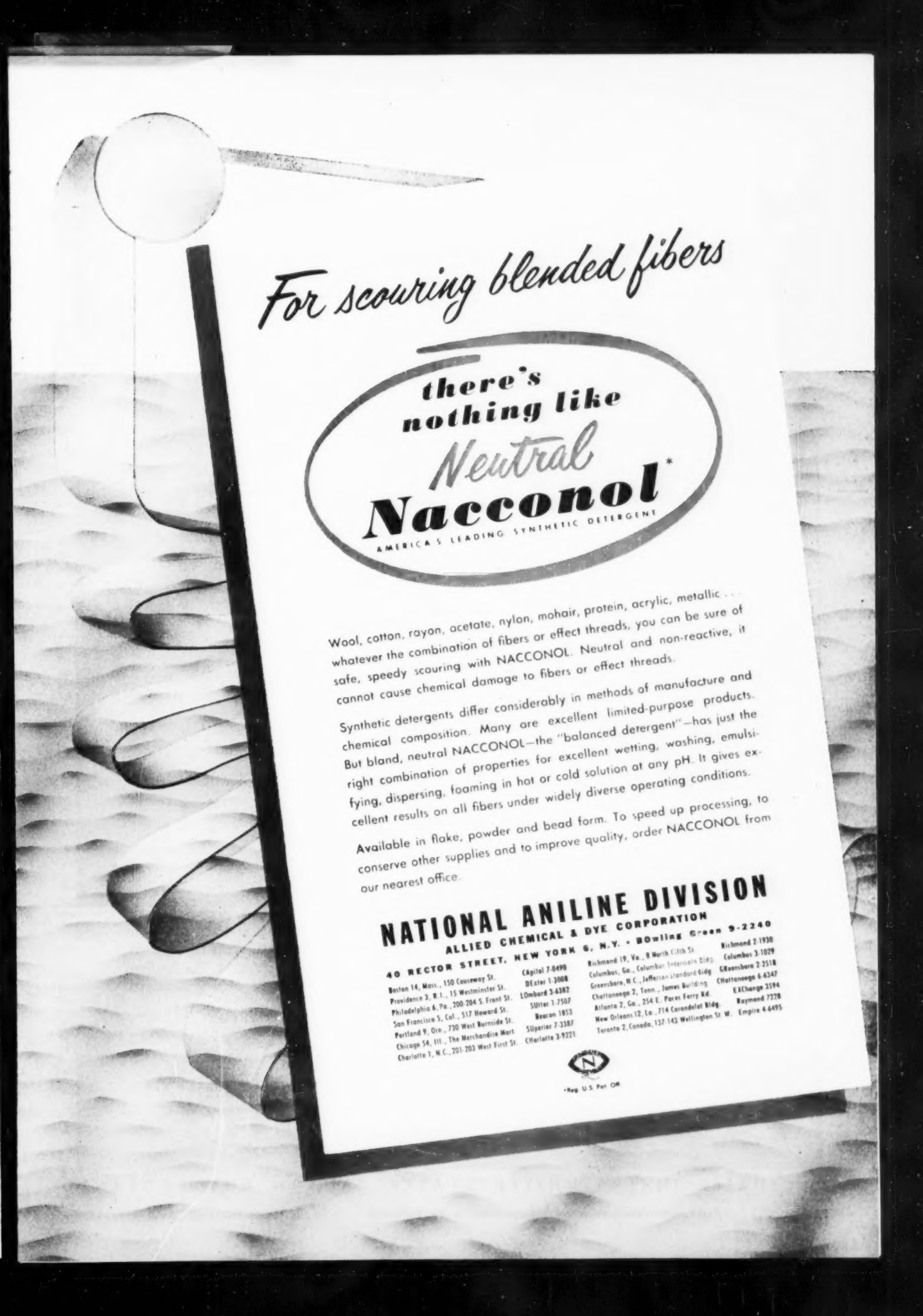
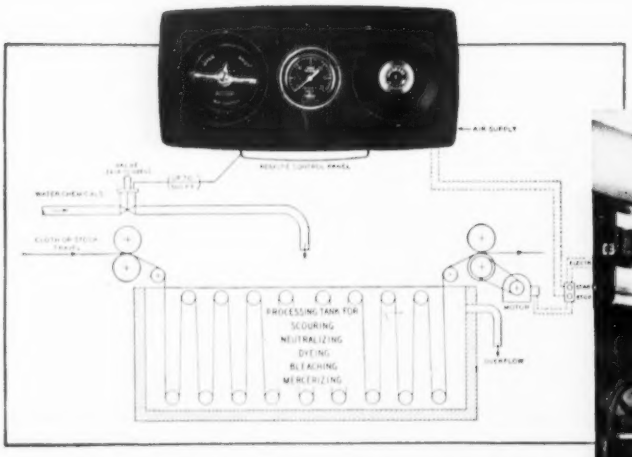
THE COMPETITIVE SYSTEM DELIVERS THE MOST TO THE GREATEST NUMBER OF PEOPLE

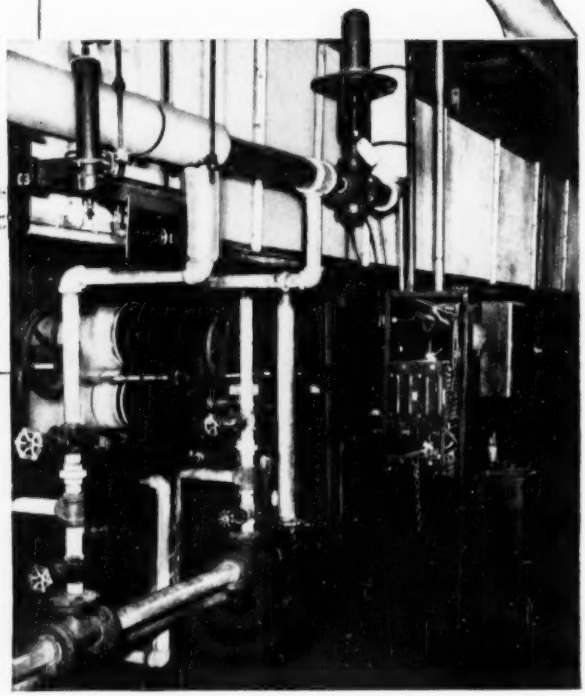

For scouring blended fibers
there's nothing like Neutral Nacconol*
AMERICA'S LEADING SYNTHETIC DETERGENT
Wool, cotton, rayon, acetate, nylon, mohair, protein, acrylic, metallic . . . whatever the combination of fibers or effect threads, you can be sure of safe, speedy scouring with NACCONOL. Neutral and non-reactive, it cannot cause chemical damage to fibers or effect threads.
Synthetic detergents differ considerably in methods of manufacture and chemical composition. Many are excellent limited-purpose products. But bland, neutral NACCONOL—the "balanced detergent"—has just the right combination of properties for excellent wetting, washing, emulsifying, dispersing, foaming in hot or cold solution at any pH. It gives excellent results on all fibers under widely diverse operating conditions.
Available in flake, powder and bead form. To speed up processing, to conserve other supplies and to improve quality, order NACCONOL from our nearest office.
NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N.Y. • BOwling Green 9-2240
Boston 14, Mass., 150 Causeway St. CApitol 7-0490
Providence 3, R.I., 15 Westminster St. DExter 1-3068
Philadelphia 6, Pa., 200-204 S. Front St. LOmbard 3-6382
San Francisco 5, Cal., 517 Howard St. SUtter 1-7507
Portland 9, Ore., 730 West Burnside St. Beacon 1853
Chicago 54, Ill., The Merchandise Mart SUperior 7-3387
Charlotte 1, N.C., 201-203 West First St. CHarlotte 3-9221
Richmond 19, Va., 8 North Fifth St. Richmond 2-1930
Columbus, Ga., Columbus Interstate Bldg. Columbus 3-1029
Greensboro, N.C., Jefferson Standard Bldg. GReensboro 2-2518
Chattanooga 2, Tenn., James Building CHattanooga 6-6347
Atlanta 2, Ga., 254 E. Paces Ferry Rd. EXChange 3594
New Orleans 12, La., 714 Carondelet Bldg. Raymond 7278
Toronto 2, Canada, 137-143 Wellington St. W. Empire 4-6495
*Reg. U.S. Pat. Off.

When Supply Valves Are "Out of Reach"...

Stop Careless Processing... Install Foxboro Remote Valve Controls



Washing section of mercerizing range (right) in large southern bleachery showing Foxboro Remote Valve Control Panel (left center) and water control valve (upper right). The diagram above shows a typical hook-up. Selector switch on panel permits automatic cut-off, manual cut-off, or manual valve positioning.



Processing supply valves are often inconveniently located, and therefore neglected, causing non-uniform treatment of cloth . . . and waste of fluids. Foxboro Remote Valve Controls eliminate such problems . . . provide effortless valve adjustment right at the operator's station. Small control panel may be located as far as 500 feet from the valve. In addition, this control system automatically shuts supply valve if process drive motor stops running . . . saves fluids that are otherwise wasted.

Get full details on this efficient, convenient Foxboro Control System. . . . Write for Application Engineering Data Sheet 220-1. The Foxboro Company, 481 Neponset Avenue, Foxboro, Massachusetts, U.S.A.

FOXBORO
REG. U. S. PAT. OFF.

REMOTE VALVE CONTROL SYSTEM

FACTORIES IN THE UNITED STATES, CANADA, AND ENGLAND

Q: WHERE *do you think,*

the Automatic Loom Bobbin was

INVENTED, PATENTED** and **DEVELOPED?

Yes, you're right... it was at US

All of the "Old Timers" in the mills will of course remember that U S originated and patented the Automatic Loom Bobbin . . . but many of the younger generation may never have been told this important fact.

And it is an important fact, for **where but in the place of origin** would you find the enthusiastic pioneering spirit which not only creates a revolutionary idea, **but is constantly alert to develop it to the highest point of perfection and use?**

WHERE DO YOU LOOK FOR *QUALITY CONTROL?*

Where . . but at U S — can you find ownership of such extensive acreage of forest lands, the source of the desirable Adirondack Rock Maple? . . . And with complete control of the stock from the time the logger goes into the woods until the bobbins leave the shipping platform!

Where . . but at U S — can you find a battery of 25 dry kilns of the most modern design and efficiency, used only for small bobbin, shuttle, spool and beam stock?

Where . . but at U S — can you find such ingenious automatic woodworking machinery? It was designed and built by our own engineers!

Where . . but at U S — can you find a complete metal fittings shop, where all rings, bushings, shields and stampings are formed . . . on U S-made dies?

Where . . but at U S — can you find a modern enameling and finishing department where bobbins can be finished right in the plant and not be subjected to the possibility of picking up moisture if transported to another plant for that operation?

Where . . but at U S — can you find a fully equipped plating department? No holding up delivery by sending the work out; complete control of quality in plating.

Where . . but at U S — can you find **so many inspection points?** With practically every operation performed within each of the four strategically located U S plants, it is obvious that **U S is never subjected to outside interpretations of quality!**

Where . . but at U S — can you find such capable, conscientious sales service as is rendered by the U S sales force? With U S, you are always dealing directly with the manufacturer.

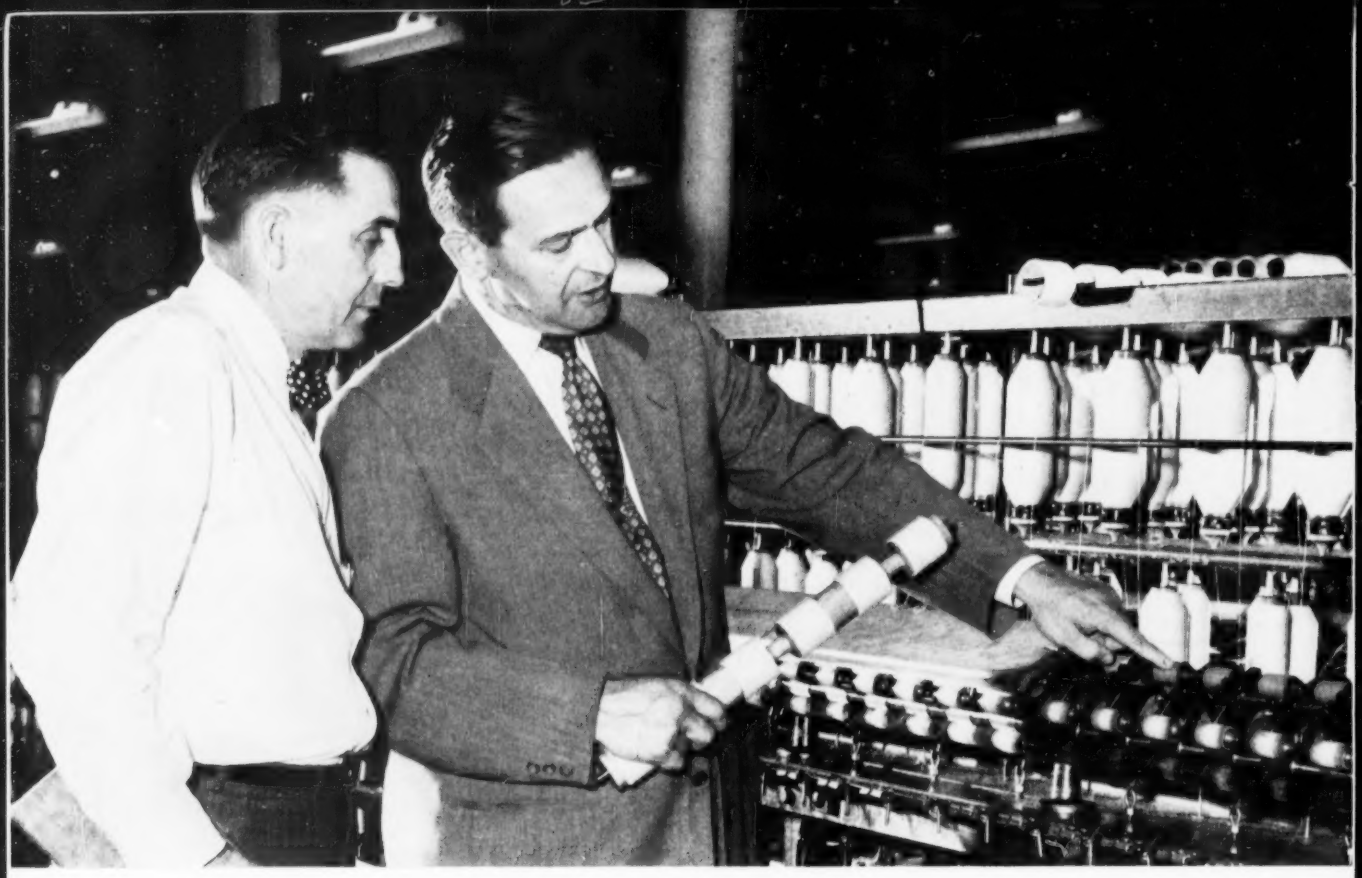
Where . . but at U S — can you find such prompt delivery, excellent service and all-'round satisfaction with every order placed?

U S BOBBIN & SHUTTLE CO.

U S makes Bobbins, Spools, Cones and Rolls; Shuttles for all automatic and shuttle-changing looms; Warper Beam Heads and Warper Beams for Cotton, Rayon and Nylon.

THE SEAL OF QUALITY AND SERVICE
US
SINCE 1857

LAWRENCE, MASS. • GREENVILLE, S. C. • PHILADELPHIA, PA. • PROVIDENCE, R. I.
CHARLOTTE, N. C. • MINNEAPOLIS, MINN. • JOHNSON CITY, TENN.
LOS ANGELES: E. G. Paules, 1762 W. Vernon Ave. DALLAS: O. T. Daniel, Textile Supply Co.
CANADA: W. J. Westaway, Montreal, Que., Hamilton, Ont.

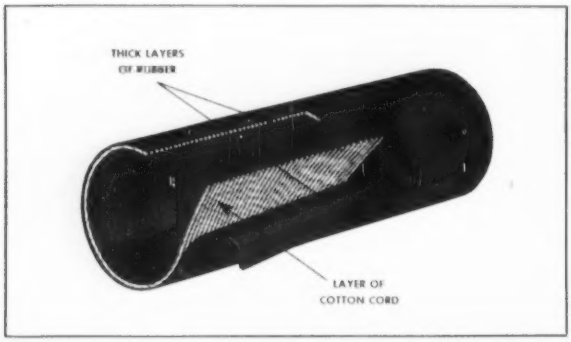


You save money when you use long-running aprons like these

More and more textile men are finding from personal experience that Armstrong's Accotex® Aprons can be depended on for 6 to 8 years of three-shift service.

For example, here's a quote from a recent letter about one mill man's experience with these aprons:

"We are forwarding several Accotex Aprons taken off a long-draft frame started up with them in November of 1943. These aprons have run on the bottom position for 8 years, 9 months on combed cotton 16's and 30's."



The explanation for such outstanding service is shown in the cutaway drawing at the left. Notice the Accotex Apron's patented, seamless, three-layer construction. Each layer is designed to do its own particular job.

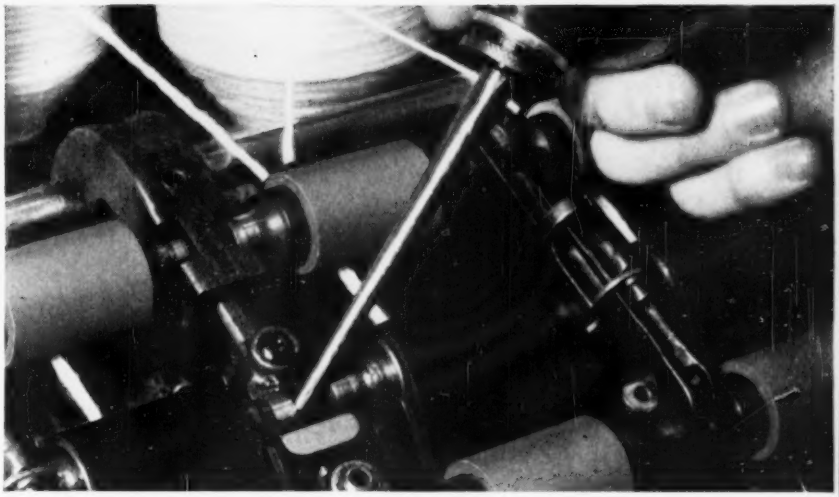
The seamless outer drafting surface, made of tough synthetic rubber, is given a finishing treatment that leaves it smooth and resistant to cracking and scuffing. The inner layer is also synthetic rubber, compounded to withstand the constant abrasion of the nose bar. Between these layers, a continuous winding of sturdy cotton cord prevents stretching or curled edges.

Vulcanized together, these three layers make an apron with no seams, no rough spots, no weak points—an apron that runs clean for years and years with a minimum of yarn variation.

Try a test installation of Accotex Aprons and see how well they perform. Your Armstrong representative will be glad to help you set up a test. Call him today or write Armstrong Cork Company, Textile Products Department, 3601 Arch Street, Lancaster, Pennsylvania. Available for export.

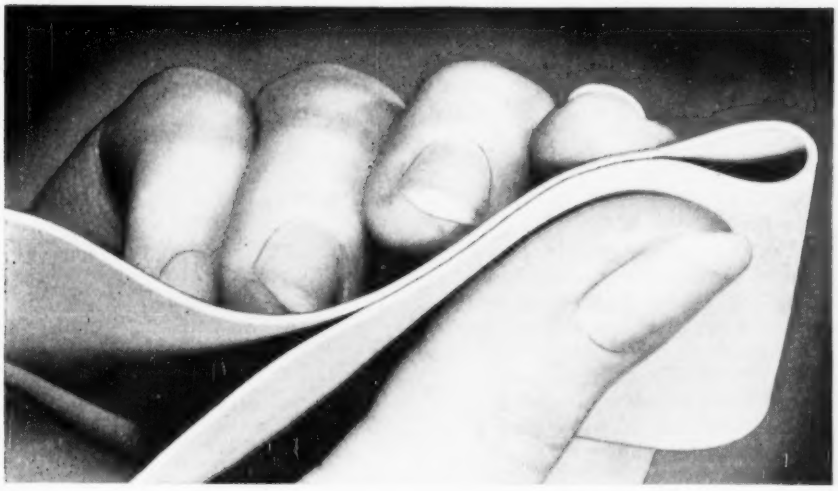
SMOOTH FINISH

Each seamless Accotex Apron is precision ground to the exact thickness you specify. A patented surface treatment then gives it lifetime resistance to scuffing and cracking. It will wear evenly and won't roughen, even after years of service.



CLEAN RUNNING

Accotex Aprons don't absorb oil or soften when exposed to dyes or commonly used textile solvents. They run efficiently without sweating under any normal mill conditions. Result: they don't pick up lint, and they stay clean running for years.



SUPER FLEXIBLE

Accotex Aprons have the extra flexibility and abrasion resistance needed on single-apron frames. They hug the nose bar closely without buckling and insure smooth slip-roll action. Their non-oxidizing rubber serves to keep them flexible.

ARMSTRONG'S ACCOTEX APRONS

one of Armstrong's complete line of textile mill supplies

"she might have been my kid..."

"There was no time to stop, see? She comes running out from behind this parked car right under my wheels. Her hair is in pigtails, and with the sun shining on it, she might have been *my* kid. We got her to the hospital. It took 3 pints of blood to bring her around. All I have to do is remember the sound of those screaming tires—and I know why *I'm* giving blood."

Yes, all kinds of people give blood—truck drivers, office workers, salesmen. And—for all kinds of reasons. But whatever *your* reason, this you can be sure of: Whether your blood goes to a local hospital, a combat area or for Civil Defense needs—this priceless, painless gift will some day save an American life!

Business Executives!

✓Check These Questions!

If you can answer "yes" to most of them, you—and your company—are doing a needed job for the National Blood Program.

- ☐ Have you given your employees time off to make blood donations?
- ☐ Has your company given any recognition to donors?
- ☐ Do you have a Blood Donor Honor Roll in your company?
- ☐ Have you arranged to have a Bloodmobile make regular visits?
- ☐ Has your management endorsed the local Blood Donor Program?
- ☐ Have you informed your employees of your company's plan of co-operation?
- ☐ Was this information given through Plant Bulletin or House Magazine?
- ☐ Have you conducted a Donor Pledge Campaign in your company?
- ☐ Have you set up a list of volunteers so that efficient plans can be made for scheduling donors?

Remember, as long as a *single* pint of blood may mean the difference between life and death for *any* American . . . the need for blood is *urgent!*

Give Blood Now

CALL YOUR RED CROSS TODAY!

NATIONAL BLOOD PROGRAM

GREATER MILL SAVINGS

- ELIMINATES BOBBIN DAMAGE
- LOWERS LABOR COSTS

- REDUCES SECONDS IN CLOTH
- SIMPLE, FLEXIBLE—QUICKLY ADJUSTABLE
- HIGH PRODUCTION
- LOW CLEANING COST
- LOWER MAINTENANCE COSTS

WITH TERRELL'S MODERN TYPE L QUILL CLEANERS AND HANDLING EQUIPMENT

Efficient and versatile—Terrell's Type L Bobbin Cleaner has proved that its money-saving advantages apply to a wide variety of mill conditions.

Originally used to remove continuous filament waste from automatic loom bobbins, the Type L is now used for wool, worsted, spun rayon, and most all cotton yarns.

For some counts of cotton the Terrell Type K Cleaner is recommended.

Terrell field engineers are specialists in solving quill cleaning and handling problems. Call on them to recommend the equipment which will give greatest savings in your mill.

THE TERRELL MACHINE COMPANY, INC.

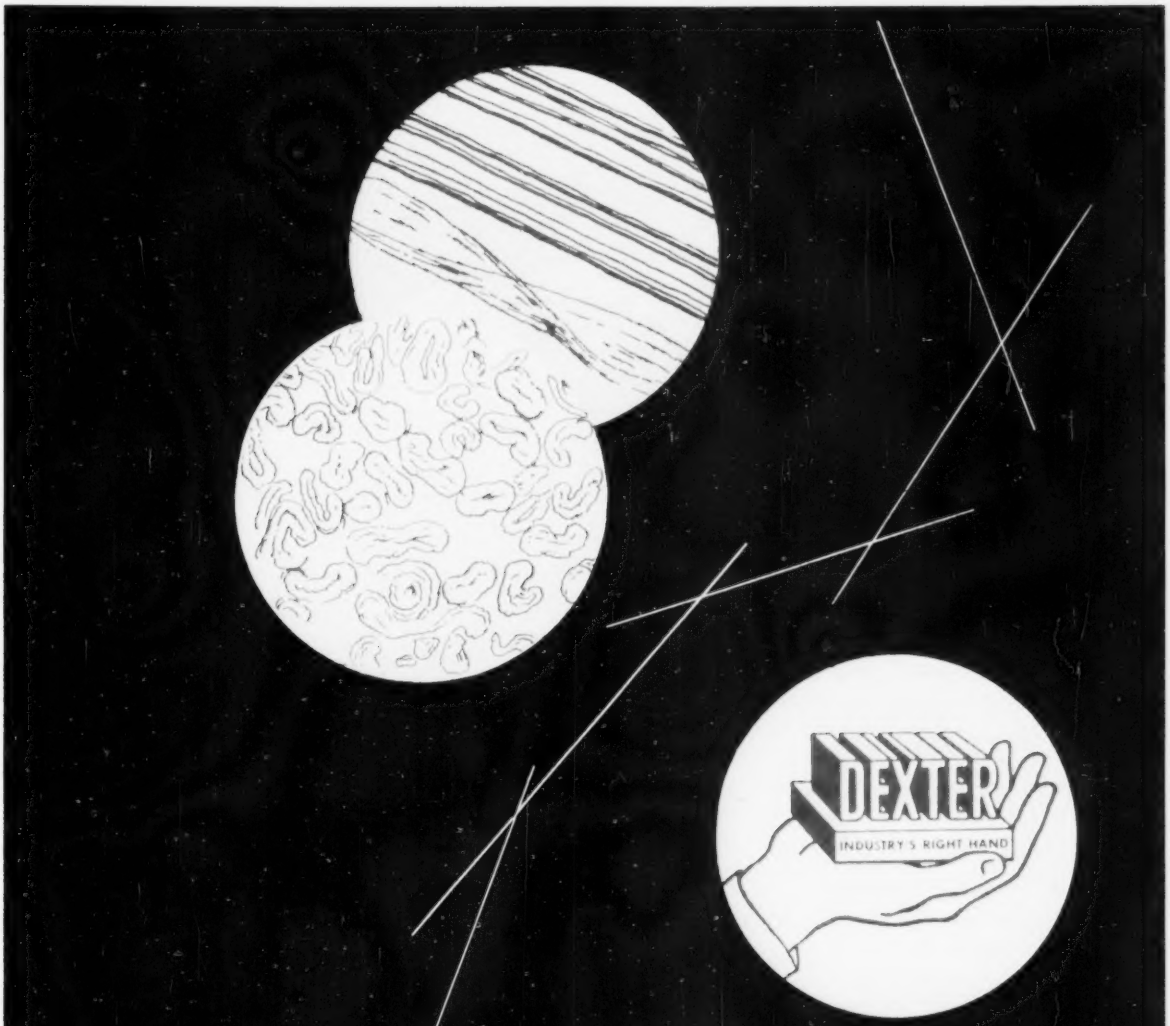
CHARLOTTE, N. C.

No Simple Task

THE SUCCESSFUL functioning of any machinery maintenance system, wherever it may be applied, depends on *how* the job of lubrication is done. Oiling and greasing must not be considered a simple task, for facts prove that the effects can be of major proportion. Analyzing the lubricant needs of the many types of machinery regarding loads, speed and atmospheric conditions, is a necessary part of an established maintenance program. Acceptance of products should be based on rigid performance tests. It has been the practice of Standard Oil to keep abreast with new developments and the needs of the textile industry, and develop from specially selected crudes, lubricants which are carefully distilled and processed to resist oxidation, gumming and wear to the highest degree. For assurance of efficient lubrication, consult one of our representatives. Remember—the combined facilities for research, testing and engineering behind the line of industrial lubricants he offers, are unequalled.

Standard Oil Company
(KENTUCKY)

STANDARD OIL
LUBRICANTS



dexter

Textile Chemicals

TEXTILE CHEMICAL DIVISION
OF
DEXTER CHEMICAL CORPORATION
NEW YORK 59, N. Y.

BOSTON • CHARLOTTE
ATLANTA • GREENSBORO • BUENOS AIRES

Marquette

HEAVY DUTY TWISTER SPINDLE

WITH TOGGLE BRAKE

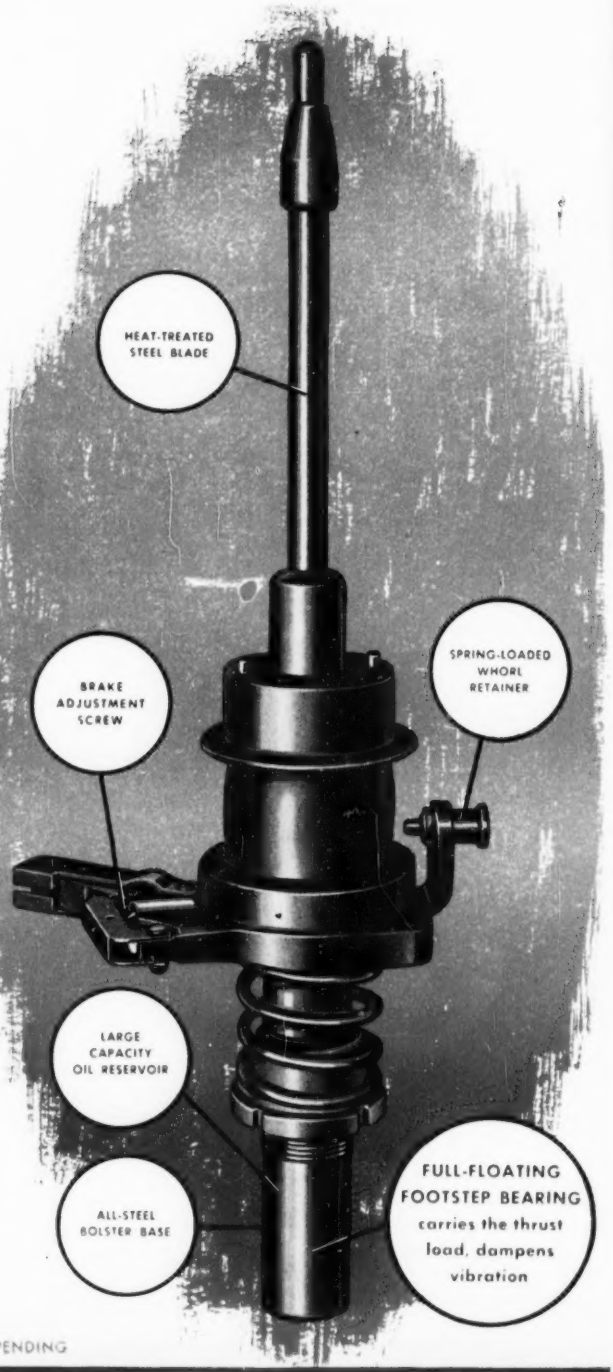
for packages up to 13 lb. gross weight

Shown at the right is one of the large Marquette Heavy Duty Twister Spindles. There are other models in the complete Marquette line, differing in size and in type of brake, *but all embodying the basic Marquette features.*

As a result of the unique Marquette construction, these spindles give you many important advantages:

- Minimum power consumption.
- Less maintenance attention is required.
- Brake is fully enclosed, and is impervious to oil and moisture.
- Production is increased through continuous operation at high speeds. Oversize roller bearing takes the radial load.
- FLOATING FOOTSTEP BEARING dampens or eliminates vibration, resulting in uniform speed and an even twist.

For every twisting, spinning and throwing operation . . . on all textiles . . . Marquette Roller Bearing Spindles assure you *more yarn at lower cost.* We'll be glad to prove this through a test installation in your mill.


HEAT-TREATED STEEL BLADE
BRAKE ADJUSTMENT SCREW
SPRING-LOADED WHORL RETAINER
LARGE CAPACITY OIL RESERVOIR
ALL-STEEL BOLSTER BASE
FULL-FLOATING FOOTSTEP BEARING carries the thrust load, dampens vibration

CATALOG ON REQUEST

PROTECTED BY U.S. AND FOREIGN PATENTS AND PATENTS PENDING

The Marquette METAL PRODUCTS COMPANY

CLEVELAND 10, OHIO • SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Representatives: C. H. WHITE, 2300 ROSWELL AVE., CHARLOTTE, N. C.; WILLIAM P. RUSSELL, BOX 778, ATLANTA, GA.
JOHN J. HALLISSY, 58 LIVINGSTON AVE., LOWELL, MASS.; HARRY KING, EASLEY, S. C.

Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS • PRECISION PARTS AND ASSEMBLIES
WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSSES • FUEL OIL INJECTORS

News IN BRIEF

No Drastic Federal Changes. It is thought in some circles that national trade associations will not have to prepare themselves to cope with the problem of government collaboration by establishing new contacts. Administration of matters affecting textiles is in the hands of government career people to whom a change of administration means little until some really drastic change of policy or philosophy finally filters down through the ranks.

Request to Restrict Knitting in Pa. Governor John S. Fine has been urged by a labor union official to "take immediate and adequate action" to curb the round-the-clock, seven-day-a-week hosiery production of an estimated 200 small operators in Pennsylvania.

CPA's Ask Tax Date Change. A committee of Certified Public Accountants has proposed that the due date for income tax returns should be changed from March 15 to April 15, and also that taxpayers should receive an automatic extension up to two months if they file a statement showing reasonable cause for extension.

Silk and Synthetics. Silk may re-emerge as a heavy volume fiber by boosting the high-fashion potential of some of the modern synthetics. Schwarzenbach Huber Co. mills are now turning out three different fabric blends of silk and Orlon.

Fabric Appeal Test. United States Testing Co., Inc., has developed a testing approach called psychometrics which will remove at least a portion of the gamble from launching novelty fabrics and prints on a large scale. Psychometrics is basically the psychological approach to a predetermination of fabric appeal or a study of human reactions to factors that govern such things as hand, drape, brightness, style, comfort, and sales appeal.

T. I. staff photo

South Carolina STA Meets in Columbia

The South Carolina Division of the Southern Textile Association met Nov. 15 at Hotel Wade Hampton in Columbia, S. C., and an interesting program was presented by J. A. Chapman, Jr., chairman. Ed Michaels of Henderson, Lindsay & Michaels, showed a film and gave a demonstration and commentary on job study. The title of Mr. Michaels' presentation was "Working Smarter—Not Harder."

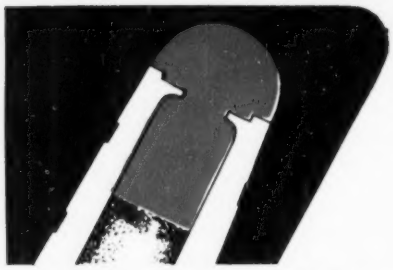
Charles A. Gibson, president of South Carolina Textile Manufacturers Association talked about "Management's 'T' Formation," in which he pointed out the similarities between textile mill organization and the "T" formation and team work in football.

Walter Brice, Draper Corp., showed an interesting moving picture depicting many of the manufacturing operations and facilities of the Draper Corp.; also in slow motion the operation of several loom motions.

NPA Removes Restrictions on Textiles. The NPA has revoked Order M-13 dealing with the high tenacity rayon industry. The Southeast's textile industry is free of all NPA restrictions since this order was revoked, according to the regional director of the U. S. Department of Commerce, NPA.

Taxes and Research. The Bureau of Internal Revenue has attempted to set forth what type of research organizations will remain exempt from payment of Federal income taxes and which ones are covered

TODAY'S "plasti-weld" AUTOMATIC LOOM BOBBIN IS ALL-PURPOSE



VIRTUALLY UNBREAKABLE PLASTIC TIP

Incorporated in this one bobbin are all of the characteristics of: ideal yarn retention and delivery, crush-resistance, heat- and moisture-resistance needed for the varying requirements of —

HARD-TWIST NYLON
SOFT-TWIST YARN
LOW-TWIST ACETATE
CONDITIONING TREATMENT

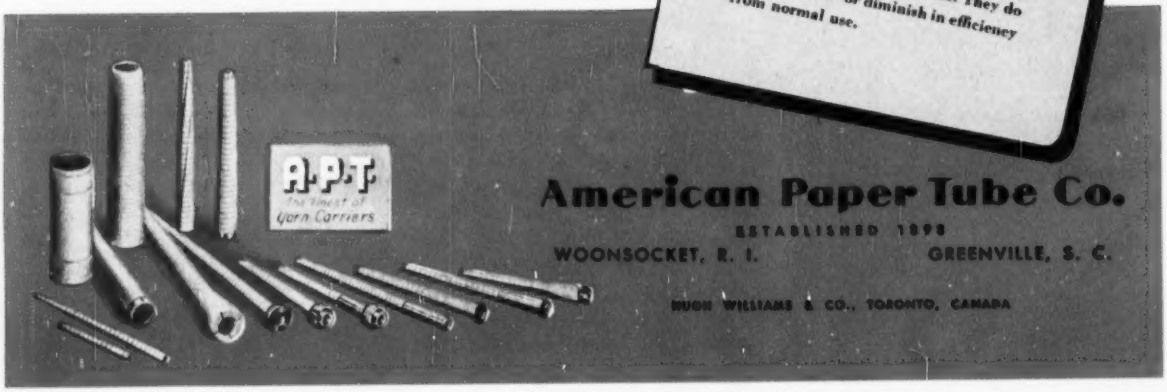
CONTINUOUS RINGS

molded in precision alignment prevent mis-transfer.

SOME ADVANTAGES OF USING A.P.T. CARRIERS

1. **SURFACE** of correct texture, groove and finish for free but controlled delivery of the particular yarn.
2. **STRUCTURE** by nature resilient and proof against chipping, splintering or cracking; of composition and hardness for the particular need, with light weight.
3. **MOISTURE RESISTANT** due to impregnation; of fibre construction inert to warping and distortion.
4. **UNIQUE DURABILITY:** retain their "brand new" degree of performance throughout their years of life. They do not "wear out" or diminish in efficiency from normal use.

Consult A.P.T.



American Paper Tube Co.

ESTABLISHED 1898

WOONSOCKET, R. I. GREENVILLE, S. C.

HUGH WILLIAMS & CO., TORONTO, CANADA

55 YEARS OF RESPONSIBILITY FOR EFFICIENT AND ECONOMICAL CARRIER SERVICE

by tax laws as modified in 1951 by Congress. The technical points involved are:

(1) Is the research of a fundamental type, or is applied research involved?

(2) Are the results of the research freely available to the public?

(3) In tax exempt organizations, such as colleges and universities, is the research work handled through a separate corporate entity, or is it tied in directly with the teaching organization?

Fashion Police! The latest innovation in the Russian zone of Berlin is fashion police. The duty of these women cops is to control the use of Western fashion items by East German women. It is interesting to note that these fashion police will be dressed in a donkey-skin uniform.

Wonder Drugs for Wonder Fibers? The American wool industry over the years has been witnessing a steady decline in the native sheep population. The diminishing supply of domestic wools has forced the industry to bargain abroad with its back to the wall. Government and industry, through the media of artificial controls, supports, prices, subsidies, ad infinitum, has failed in stimulating sheepgrowers to increase their herds. Now, the emphasis is on stimulating the sheep. From the University of Wyoming comes reports of a new approach. Here, test herds have been exposed to the wonders of antibiotics. In a two-month period, experimental lambs gained a healthy 8.2 per cent in weight on a bacitracin-normal feed diet. With monster sheep on our ranges, perhaps the supply curve will perk up.

AATCC Completes Study on Vat Dyeing. The National Council of the American Association of Textile Chemists and Colorists has announced the completion of the work on the Vat Monograph, a 384-page study of vat dyeing. Copies of the study are scheduled for sale after January 1. This book is one of the most comprehensive and complete studies of vat color application ever compiled and will be priced at $7.50.

Southern Combing Expansion Viewed. The possibility of setting up wool and synthetic combing facilities in the Southeast is being investigated by Associated Spinners, Inc. Ralph Tager, treasurer of the company, termed the need logical because of "the steady movement of worsted spinners to the South and the erection of most of the nation's synthetic fiber plants in that area." Associated's plant, which spins fine zephyr and synthetic yarns, is located at Gastonia, N. C.

Cotton Council Meet Scheduled. Plans are being completed for the National Cotton Council's fifteenth annual meeting at Dallas, Texas, January 26-27. More than 700 representatives of the cotton industry and allied groups are expected to attend the meeting, where programs for research and promotion for 1953 will be mapped.

News in Brief

Chlorophyll - Treated Sheets. Springs Cotton Mills, Lancaster, S. C., has announced a new line of colored sheets and pillow cases treated with chlorophyll.

Synthetics On Their Own in ASTM. Representatives of man-made fibers are abandoning ASTM's subcommittee A-2, section 11, Committee D-13. Concerned with synthetic fabrics test methods, A-2 was organized at a time when the industry felt that synthetic fabrics might be subjected to unfavorable comparisons when

Vinyl Plastic Padding to Prevent Bruises

Protection against painful bruises is provided by vinyl plastic sponge, made from B. F. Goodrich Chemical Company's Geon paste resin. Here, Dr. Bohm, trainer of the Washington Redskins, is taping some of the vinyl sponge on Gene Brito, while Charley "Choo-Choo" Justice and Neil Ferris are adjusting the plastic padding on their own gear.

The protective pads are cut from large sheets of the plastic sponge and taped over the part of the body to be protected. The sheeting, called "Vinylaire" and manufactured by Dura Flex Co., of Santa Monica, Calif., is light weight, does not absorb odor, perspiration, or oil, and does not turn hard upon aging.

"HOLYOKE"
CALENDER ROLLS

Established 1863

HOLYOKE MACHINE COMPANY

CALENDER ROLLS for the PAPER and TEXTILE INDUSTRIES
WATER FILTRATION EQUIPMENT
HOLYOKE, MASSACHUSETTS

tested by methods conceived for fabrics woven from natural fibers. The new outlook is that synthetics do not require specific test techniques. In plain talk, producers of synthetics are willing to stack their product against all comers and let the fibers fall where they may.

Crinkled Yarn for Stockings. Scott & Williams, Inc., will grant licenses under patent No. 2,601,451 for the manufacture of sheer stockings from crinkled yarn. A non-exclusive license is offered to throwsters at a moderate royalty to prepare the crinkled yarn and supply it to hosiery mills for the manufacture of stockings covered by the patent. Mills procuring crinkled yarn from licensed throwsters are authorized to use such yarn in the manufacture of sheer stockings without payment of any further royalties, on their agreement to mark such stockings, or packages containing them, with the patent marking "Pat. 2,601,-451" and to keep a record of all stockings produced from such yarn with the source of yarn.

For Employees and Supervisors. "How to Get the Most Out of Every Day" is the title of a twenty-one page booklet which gives the answers to the problems of organizing an individual's activities for the highest degree of efficiency and the least amount of tension. The booklet contains an abridgement of a chapter from "The New Way to Relax," by Karin Roon, and is available from the National Foremen's Institute, Inc., 100 Garfield Ave., New London, Conn.

WSB Information Service. The Wage Stabilization Board has announced that employers seeking information and advice regarding rules and interpretations of WSB should apply directly to their local WSB regional boards instead of the field offices of the U. S. Department of Labor, Wage and Hour and Public Contracts Division. Requests for approval of health, welfare, and pension plans will still be handled in the WSB's Washington office.

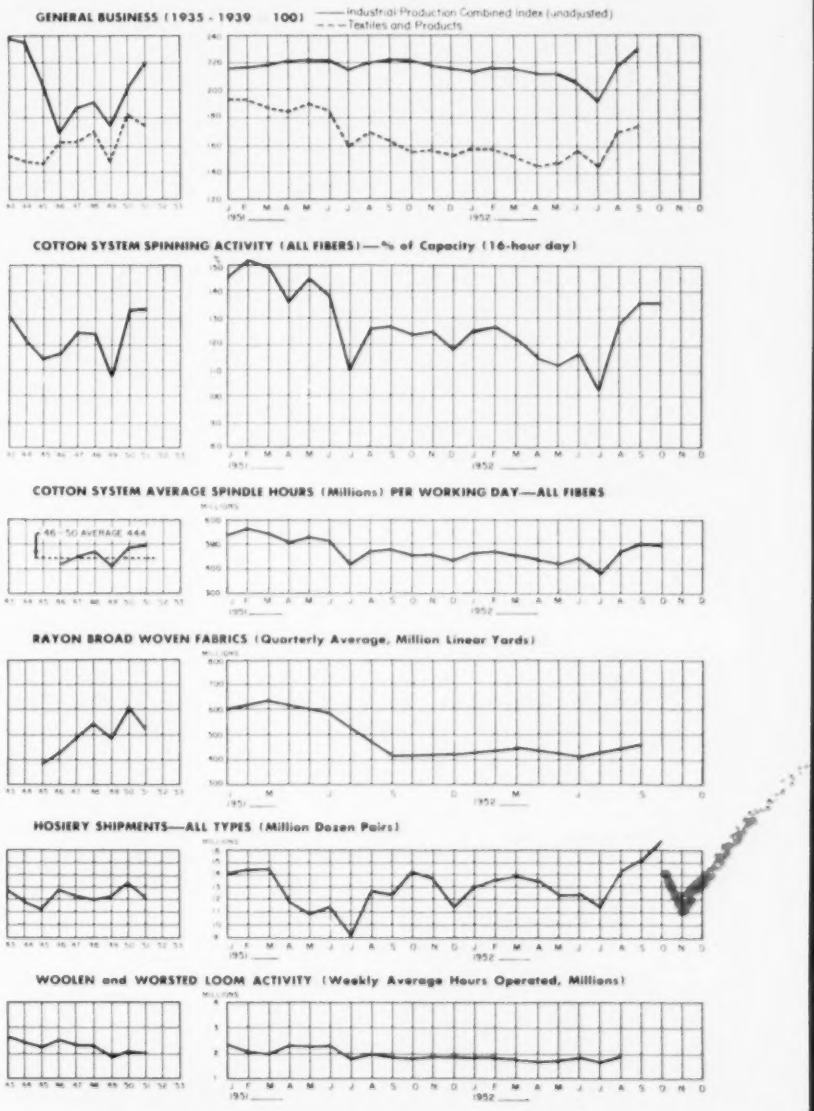
Roto-Drafter Developed by Whitin. Whitin Machine Works has developed a new machine called the Roto-Drafter which is said to provide mills with more flexibility than was possible heretofore. The new machine can process short fibers as well as fibers up to 7

(Continued on page 166)

News in Brief

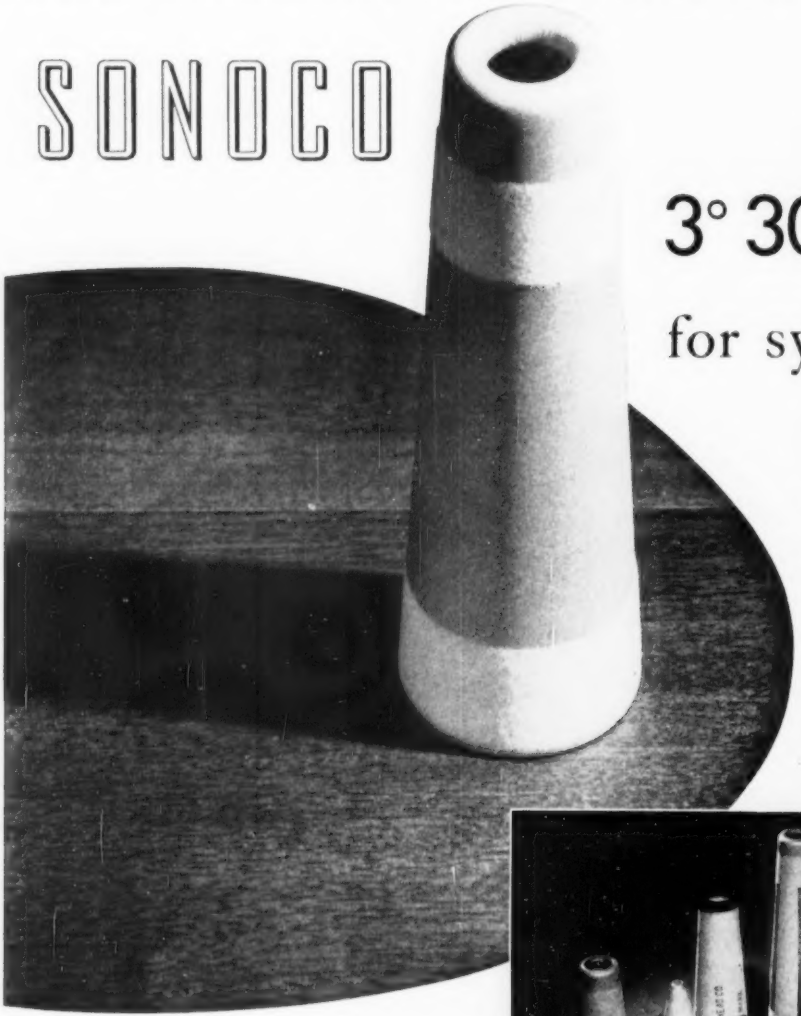
Textile Industry Activity Charts

Source of information: Bureau of the Census, U. S. Department of Commerce; National Association of Hosiery Manufacturers.


GENERAL BUSINESS (1935 - 1939 100)
Industrial Production Combined Index (unadjusted)
Textiles and Products
COTTON SYSTEM SPINNING ACTIVITY (ALL FIBERS)—% of Capacity (16-hour day)
COTTON SYSTEM AVERAGE SPINDLE HOURS (Millions) PER WORKING DAY—ALL FIBERS
46 - 50 AVERAGE 444
RAYON BROAD WOVEN FABRICS (Quarterly Average, Million Linear Yards)
HOSIERY SHIPMENTS—ALL TYPES (Million Dozen Pairs)
WOOLEN and WORSTED LOOM ACTIVITY (Weekly Average Hours Operated, Millions)

SONOCO

Precision Paper Products



3° 30′ CONES

for synthetic yarns

Especially developed for high speed winding, magazine creeling and knitting machine delivery for rayon, nylon and other filament yarns, and is available in various lengths and weights.

SONOCO 3°30′ cones can be supplied either plain, or with Unitex or Velvet surfaces banded or solid, in a variety of colors and with burnished or plain base.

We are fully equipped to print names or trademarks on any of our cones as shown in the illustration to the right. Sonoco cones are available with notches, scores, perforations, and in many engineered nose or tip designs. Lacquer tipping, dyed base and tip, and also striped base can be furnished on cones as a means of quick identification of various kinds and counts of yarn.

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AN EXECUTIVE *Views*

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Effect of Man-Made Fibers on New England Textiles

NO ONE can deny that the New England cotton textile industry has declined severely over the past several years. Going back twenty-five years to the halcyon days of 1925 or 1926 shows how violent this debacle has been. From a peak of over 18,000,000 spindles about that time, New England has dropped to a point where there are now only about 2,800,000 active spindles in that region.

This decline has been pointed out so many times that it is no longer news. Speeches have been made about it, articles have been written on it, and governors have appointed commissions and committees to study the question. Why studies are necessary is beyond the comprehension of your correspondent. Everybody already knows the situation; further studies are useless. Whether or not you want to go along with that opinion is beside the point, for at least you will agree that the decline is an established fact.

In recent years, there has been a great deal of sound and fury about this matter. A friend of ours who is in the textile industry, and who has a statistical and economic bent, asked the other day, "Have you ever considered what effect the rise of man-made fibers might have had upon the New England cotton textile industry? Listening to all of the commotion, you would think that southern competition has been the sole cause."

We admitted that we had never considered this possibility, but as time went by the thought became more intriguing. A little research dug up some interesting facts.

Story of Growth

The story of man-made fibers is certainly a story of great growth. For example, in 1920 cotton accounted for 90% of the total textile market, but by 1950 this had dropped to 70%. Consumption of wool fibers also declined. On the other hand, in 1920 synthetics accounted for less than one-half of 1% of the textile market, but by 1950 accounted for practically one-fifth.

It is true, of course, that in 1920 the synthetic fibers were practically unknown, and that comparing present day conditions with those of 1920 may not be quite valid. Looking at 1939, however, we find that production of man-made fibers has increased 253% since that time.

Another interesting fact is that output per man-hour, according to the United States Department of Labor, has risen 186% in the synthetics fibers since 1939. We are not quite certain what increases, if any, have been made in cotton in the matter of productivity per man-hour, but we are definitely certain that there has been no increase of 186%.

Therefore, as we considered the question which had been asked us, we felt that we first had to settle two basic points: First, had the cotton textile industry in New England actually declined as much as rumor would have us believe; and, secondly, had the synthetic industry made the dramatic gains which had been claimed for it. The figures which we found and which we have given you seemed to provide an answer of "yes" to both our major questions.

Granted, however, that the cotton textile industry has declined in New England and the synthetics industry has grown tremendously throughout the country, why has this synthetics growth not resulted in a similar decline in southern cotton textiles?

The answer to this is rather obvious because, of course, the major production of the New England industry has always been fine goods, and it has been in this field, plus a few others such as tire cord, that synthetics have made the heaviest inroads. At the present time, approximately 80% of New England spindles are operating on fine goods, and a percentage roughly comparable to this has existed for many years.

Wage Rates

In making this little study, we also got pretty deeply into the question of wage rates. We went back to 1939 and found that com-

"YOU'LL HAVE TO ADMIT HE'S A GOOD CHEMIST EVEN THOUGH HE DOES SHOW OFF A BIT."

SEYCO Products

WARP SIZING

Softeners
Binders
Penetrants
Ty-In Penetrants
Shuttle Dressing

WET PROCESSING CHEMICALS AND AUXILIARIES

Dye Assistants
Penetrants
Rewetting Agents
Sanforized Fabric Oils
Detergents
Scouring Agents
Softeners

NIAGARA TWIST-SETTER

Yarn Conditioning Penetrants

We don't like to brag, but the SEYCO man can work wonders in your mill with SEYCO Products. It will cost you nothing to find out what he can do for you.

A half-century of KNOW-HOW is at your service.

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• TWIST SETTER MACHINES •

pared with June 1952, the latest month available, there is less of a percentage differential between the North and the South. In short, we found that in September 1939 average hourly earnings in northern cotton textile mills were 44.6¢, while in the southern mills they were 36.3¢. By June of 1952, the New England figure had risen to $1.45, while the southern figure had risen to $1.25. Percentagewise, average hourly earnings in New England textiles had risen 225% from 1939 to 1952, while southern average hourly earnings had risen 245%.

Thus, if southern competition is "terrific" now because of the difference in wage rates, it must have been even worse in 1939, because the difference was greater in that year.

We realize, of course, that this is an over-simplification of a difficult question, because it does not take into consideration such things as fringe benefits and work-loads. At the same time, a southern manufacturer would say that nobody in the South made New England mill management decrease work-loads, while at the same time increasing fringe benefits.

Nevertheless, it is patently obvious that average hourly earnings do not tell the whole story, and that fringe benefits and work-loads are of considerable importance.

Other Figures

Continuing to scratch on the back of an old envelope, we came up with a few additional figures which seem to be interesting. Using Census figures on quarterly production in thousands of linear yards, and taking the base period, 1946-1948, a relatively lush interval, we found that the production of fine cotton goods has declined considerably. Other cotton fabrics, however, have held their own. During this same period, the production of synthetic fabrics has increased some 10%.

The fact that fine cotton goods had decreased considerably—as a matter of fact, about 14%—when compared with the 1946-1948 period, while synthetics had risen about 10%, indicated a need to delve a little more deeply into the subject.

End Uses

A check of some of cotton's end uses seems to indicate that man-made fibers have bitten deeply into the markets for twills, sateens, marquisettes, lawns, organdies, dimities, poplins, voiles, etc. For example, consider the question of curtains. A recent study shows that in 1936 slightly more than 46,000,000 pounds of cotton went into curtains. By 1949, however, this had declined to 43.6 million pounds.

On the other hand, in 1937 only 3.7 million pounds of man-made fibers were used for curtains, and by 1949 this had jumped to the amazing figure of 15.1 million pounds.

Some rather drastic changes have also been taking place in the field of women's, misses', children's, and infants' apparel. In 1937, 533.3 million pounds of cotton were used in this field, and by

(Continued on page 199)

Jan. 19-22—Plant Maintenance Show, Public Auditorium, Cleveland, Ohio.

Jan. 26-27—Annual meeting, **National Cotton Council,** Dallas, Texas.

Jan. 26-30—11th **International Heating and Ventilating Exposition,** International Amphitheatre, Chicago, Ill.

Feb. 18-20—Fourth annual **Cotton Research Clinic,** General Oglethorpe Hotel, Savannah, Ga.

Mar. 26-28—Annual convention, **American Cotton Manufacturers Institute,** Palm Beach Biltmore Hotel, Palm Beach, Fla.

April 9-11—Annual convention, **Alabama Cotton Manufacturers Association,** Buena Vista Hotel, Biloxi, Miss.

April 20-24—**National Packaging Exposition,** Navy Pier, Chicago, Ill.

April 22-23—Spring meeting, **The Fiber Society,** New Orleans, La.

April 23-25—Annual convention, **Cotton Manufacturers Association of Georgia,** Boca Raton Hotel and Club, Boca Raton, Fla.

April 27-28—Annual convention and conference, **National Association of Hosiery Manufacturers,** Claridge Hotel, Atlantic City, N. J.

April 27-May 1—**Knitting Arts Exhibition,** Auditorium, Atlantic City, N. J.

April 27-May 8—**British Industries Fair** Heavy Industry, Castle Bromwich, Birmingham, England; consumer goods, Olympia and Earls Court, London.

May 7-9—50th anniversary convention, **Phi Psi Textile Fraternity,** Penn-Sheraton Hotel, Philadelphia, Pa. Hosts: Philadelphia Textile Institute and Philadelphia Alumni Chapter.

May 18-22—**Materials Handling Exposition,** Convention Hall, Philadelphia, Pa.

May 25-30—Annual conference, **Textile Institute,** Llandudno, North Wales.

June 15-19—**Exposition of Basic Materials for Industry,** Grand Central Palace, New York, N. Y.

June 18-20—Annual meeting, **Southern Textile Association,** Mayview Manor Blowing Rock, N. C.

June 29-July 3—Annual meeting, **American Society for Testing Materials,** Atlantic City, N. J.

July 27-31—**International Exposition of Fabrics, Fibers, Finishes, and Yarns,** Waldorf Astoria Hotel, New York City.

Sept. 10-11—Fall meeting, **The Fiber Society,** Lowell, Mass.

Sept. 17-19—Annual national convention, **American Association of Textile Chemists and Colorists,** Stevens Hotel, Chicago, Ill.

Oct. 15-16—47th annual meeting **North Carolina Cotton Manufacturers Association,** Carolina Hotel, Pinehurst, N. C.

1954

April 26-May 1—**American Textile Machinery Exhibition** (sponsored by American Textile Machinery Association), Atlantic City (N. J.) Auditorium.

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LEATHER LOOM STRAPPING

Fast Deliveries!

Strapping in all styles and sizes now expertly made both in Charlotte, N. C. and Danielson, Conn. Immediate delivery from closest point.

Only the very best **HIDES** are used by Jacobs.
Careful control of **STORING** at exact humidity.
Accurate initial **CUTTING** of blanks to order.
Individual hand **CALIPERING** and classifying.
Custom cutting and **SHAPING** to customers' order.
Jacobs "Verybest" **EMBOSSING** for identifying.
A critical final **INSPECTION** before shipping.
Prompt service on **SHIPPING** eliminates delay.

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THE BULLARD CLARK CO.

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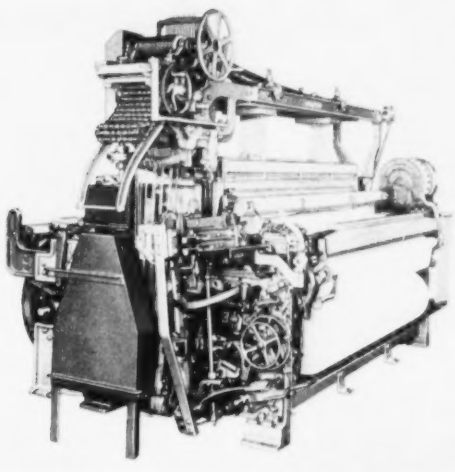
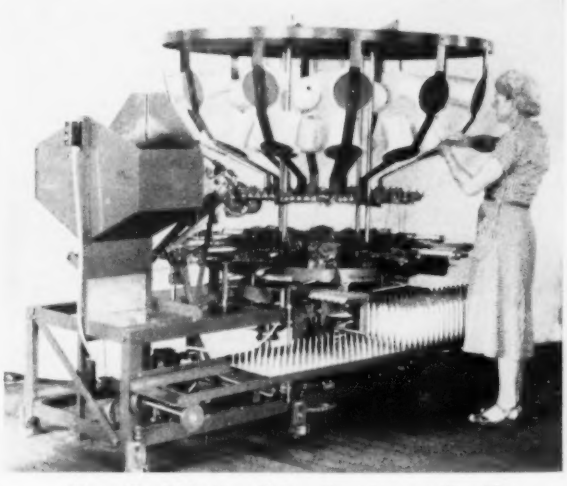
SOUTHERN DIVISION
Charlotte, N. C.

NORTHERN DIVISION
Danielson, Conn.

NEW Equipment AND MATERIALS



Draper XD loom with 2 x 1 filling mixing motion.



Versatile Abbott radial quiller for small mills.

New Draper XD Loom Has 2 x 1 Filling Mixing Motion

Improved design of the Draper Model XD Loom, the addition of new mechanisms, and the increase in warp and filling package capacity make it profitable to operate on a wide range of fabrics. Featured new construction on this loom includes:

(1) 2 x 1 box filling-mixing motion;

(2) Positive acting W-2 head;

(3) Set-mark reducing mechanism;

(4) Yarn beams up to 32" in diameter;

(5) 3" throw crank shaft;

(6) 2 7/16" diameter cam shaft;

(7) 72" width loom having an 80¾" reed space.

Improvement has also been made in the X-2 Model loom to aid in the weaving of quality cotton fabrics—a new ratchet take-up permits the weaver to match the pick when there is a filling break so as to prevent thick and thin places in the cloth when the loom is again started.

Draper Corp., Hopedale, Mass.

For additional data, request item A-105, using Handy Return Card on page 188.

Fully Automatic Quiller for Smaller Mills or for Wide Variety of Counts

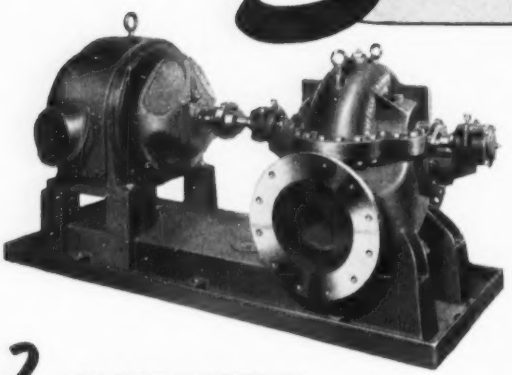
Designed especially for smaller mills and mills with widely diversified production is the Abbott Fully Automatic Radial Quiller for winding cotton, spun rayon, filament rayon, woolen and worsted yarns, etc. Up to 2000 bobbins per operator per hour can be produced on the machine, depending on the type of yarn being wound; winding speeds, 250 to 350 ypm. Mechanical efficiency should exceed 90%.

Empty loom bobbins are dumped into hopper, which holds approximately 300 bobbins, then fed automatically to winding units. Uniform bunches are automatically built. Individual winding units are solidly mounted on a large table which rotates to bring winding units into loading position. Bobbins are filled in one revolution of this table.

Variable speed drive can easily be adjusted to the count and type of yarn to fill a bobbin in one revolution of the table. Creel revolves with table, holds 12 pairs of cones, can

"Buffalo" *Tips on Better Pumping*

3 TYPES of PUMPS and what each offers you —

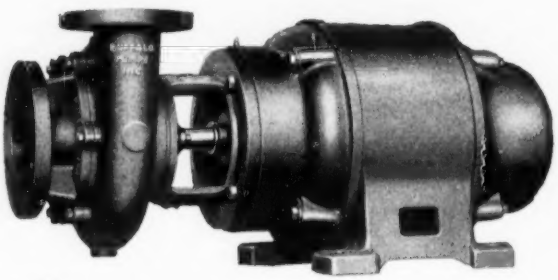


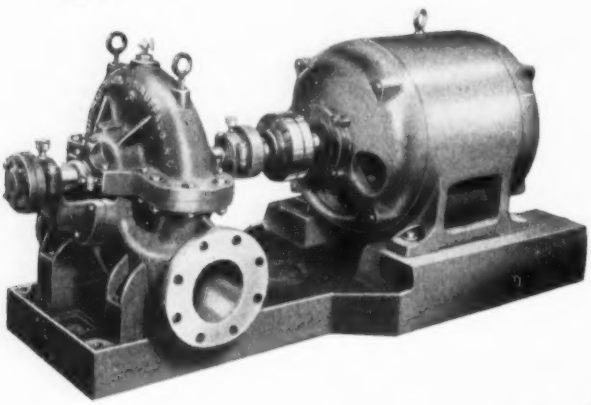
1. DOUBLE SUCTION

This "Buffalo" Pump offers a high degree of efficiency in pumping large volumes of clear water. Available in capacities for 10 to 10,000 gpm at up to 300 ft., these pumps are hydraulically balanced—water entering both sides of the impeller in equal volume and pressure. Bearings on each end of shaft mean extra long wear. Horizontally divided casing makes for extreme accessibility in inspection and servicing. Full details in BULLETIN 955-P.

2. CLOSE-COUPLED

Here is a ruggedly compact pump for those "close-quarters" installations. Pump and motor are rigidly mounted together with impeller on motor shaft, which means *permanent alignment.* "Buffalo" builds these pumps in a variety of alloys for specific liquids, with threaded or flanged inlets and outlets. Pump casing may be rotated, or removed for inspection—an important maintenance factor. WRITE for BULLETIN 975-B.





3. MULTI-STAGE

Each extra stage adds pressure! That's why pumps like these "Buffalo" Type "RR" (2 and 4-stage models) operate efficiently against high pressures (500 psi or 1500 ft. heads). These "Buffalo" Pumps have proven themselves very durable in boiler feed and other clear water installations. Bearing support on both ends of the shaft—rugged, horizontally divided casing—solid, rigid base—all contribute to easy maintenance and long life. For further details, write for Bulletin 980-B.

"Buffalo" BUFFALO PUMPS, INC.

175 MORTIMER STREET BUFFALO, N. Y.

Subsidiary of Buffalo Forge Company

Canada Pumps, Ltd., Kitchener, Ont. Sales Representatives in all Principal Cities

A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

accommodate wide variety of supply packages, easy to magazine.

Machine can be arranged to automatically doff bobbins onto pinboards for rayon or into baskets for cotton, wool or worsted. It knocks off automatically in case of overload. Measured yardage attachment is available; less than 1% variation.

Maintenance is minimized through the use of nylon cams and gears which eliminate the necessity for oiling, have longer life, and run more quietly.

Abbott Machine Co., Inc., Wilton, N. H.

For additional data, request item A-116, using Handy Return Card on page 188.

Device Lubricates Card Flat Chains Automatically

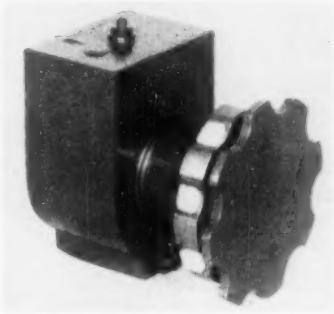
A simple, inexpensive way to automatically apply oil to card flat chains has been developed. Known as the M & J Card Flat Chain Lubricator, it is designed for use on most makes of cards.

Reports from mill superintendents and card grinders indicate that advantages to be derived by use of the device which mounts directly onto the card and is driven by the flat chain are:

(1) Life of flat chains is increased;

(2) Life of case hardened worm gears that drive the flats is increased because the load is reduced by the chain being lubricated and more flexible;

(3) Flats can be set more accurately due to the elimination of "bucked flats" (flats that fail to lie down on flexible bend due to the inflexibility of the rusty chain).



Card flat chain lubricator.

Charlotte Mfg. Co., Charlotte, N. C.

For additional data, request item A-115, using Handy Return Card on page 188.

No Lint Accumulation in New Axial Air Gap Motors

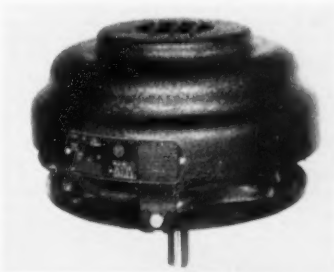
Designed specifically for use in lint laden atmosphere encountered in the textile industry is a complete line of axial air gap motors. The windings of these motors are filled and varnished, thus presenting a smooth, hard, and glossy surface which will effectively prevent the retention and building up of lint. To further aid in keeping the ventilating passages clear, these motors are furnished with motor covers with larger than standard openings.

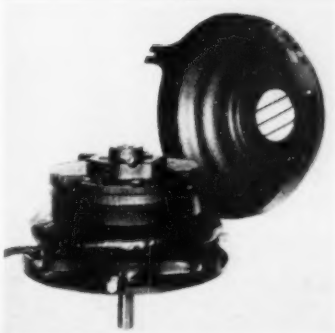
Numerous other features usually found in motors for textile applications are included. These motors are normally supplied with a five-foot-long, rubber-covered, three-conductor cable.

Ratings from one to 15 horsepower inclusive are available.

Fairbanks, Morse & Co., Electrical Division, Freeport, Ill.

For additional data, request item A-102, using Handy Return Card on page 188.





NEW Equipment AND MATERIALS

Flat Clearer Covers Eliminate "Eyebrows"

Accotex NO-753 Flat Clearer Covers keep roll covers clean without creating an accumulation of waste. Used in place of felt on both roving and spinning frame, they eliminate the necessity for clearer picking and also eliminate "eyebrows."

Armstrong Cork Co., Lancaster, Pa.

For additional data, request item A-111, using Handy Return Card on page 188.

Warp Size Applied at Room Temperature

A warp size now available for cotton, spun rayon, worsted, and filament viscose yarns is applied at room temperature, eliminating the need for heated storage kettles and size boxes.

Other advantages to be derived from the use of this specially modified starch product called "Kosize" which gelatinizes to a relatively clear, colorless solution and which is entirely non-congealing are: quick, easy preparation; easier cleaning of size kettles and size box—less waste; elimination of viscosity changes due to breakdown of starch at high temperatures and due to dilution by steam condensation; no variations in viscosity due to temperature changes; longer life assured for squeeze rolls and blankets; more uniform sizing; easily removed from fabric—in many instances without the use of enzymes.

National Starch Products Inc., 270 Madison Ave., New York 16, N. Y.

For additional data, request item A-101, using Handy Return Card on page 188.

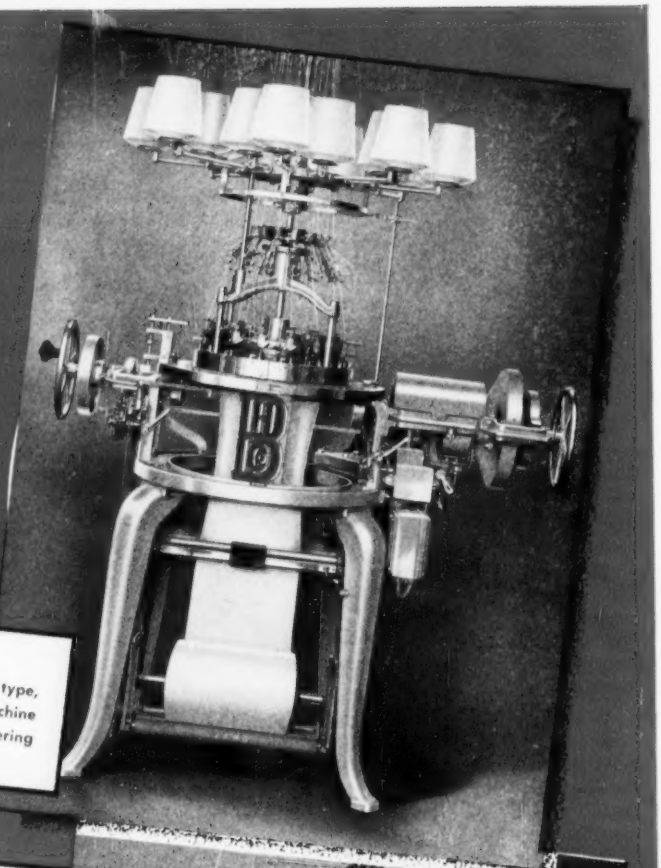
Evener Motion for Drafting Rolls

An evener motion applicable to drafting rolls on drawing, roving, and spinning frames has been developed. Designated the Ideal Evener for Drafting Rolls, it operates in this manner:

Replacing the back top roll of the drafting assembly is an individual, fluted, spring-weighted roll for each sliver fed into the machine (a draw-

(Continued on page 153)

BRINTON
OFFERS YOU YOUR CHOICE OF TWO TYPES OF RIB BODY MACHINES

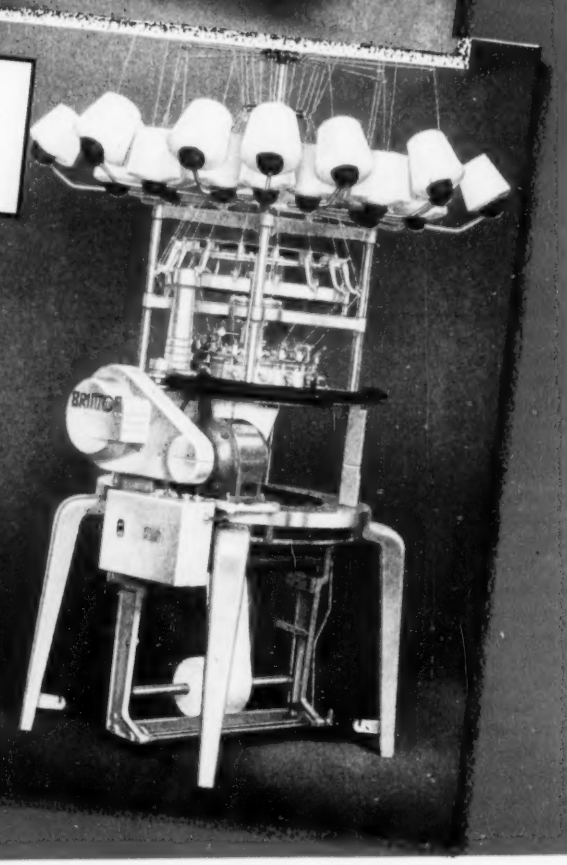


STATIONARY CYLINDER

Throughout the world knitting mills are using this type, such as the Brinton Maximum Feed Rib Body Machine shown above, because they find it unexcelled for delivering quality and quantity production.

REVOLVING CYLINDER

New features of engineering are combined with speed—plus—quality production in this type—the newest Brinton development. Years of Brinton research have developed these revolving cylinder machines.



WEIGH THE ADVANTAGES

Each type of machine has features of merit. Select the type best suited for your operation. The outstanding advantage of the machine, whichever type, is the Bonus Feature: *Brinton's 63 Years of Know-How*—seasoned engineering ability, expert mechanical knowledge, top-flight production experience and skilled craftsmanship—which assures you of the highest quality machine it is possible to manufacture.

BRINTON

CIRCULAR KNITTING MACHINES

KENSINGTON AVE. & M ST., PHILA. 24, PA., U.S.A.

Shorts and Remnants

► Yep, this is the Shorts & Remnants page in its usual place, even if we did go through a face-lifting process on the front cover. That background is woven fabric without benefit of tar spots, and if you're buffaloed by an occasional nep, just hold on—we've more fabrics for covers as time goes on. We hope you like both the front cover and our semi-automatic index for locating articles of your choosing.

► Speaking of neps, one of our good friends in Georgia writes that he has been checking neps in the old-fashioned way of looking at the card web, except when he can talk a friend at another plant into counting them on one of the new-fangle boards. Getting the count outside has become embarrassing to him, especially when the count is high, so he wants a board for his ownity-own. Can get them from Ferguson's Hardware, Raleigh, N. C. And may his neps decrease.

► Tar spots bring to mind a letter from a mill man in Massachusetts who said a southern gentleman blamed the "tar" in cotton on the use of oil-fired burners in the drying treatment at gins, and would we confirm. Both southern and northern gentlemen always blame something on somebody else or each other. As for us, we are ready to blame anyone but ourselves for tar spots; but we must admit that tests show the major source is tar accumulated in transit—by truck and rail (and dirty platforms, etc.). Ginners have been able to damage cotton without adding tar.

► While in Massachusetts recently, we were invited to an old-fashioned baked bean dinner. One of Geigy's wits said it must be "baked beans and grits," whereupon his friend asked us what "grits" are. Well, they're pretty fine stuff.

► No pun intended above, but it does remind us of capitalizing on the other fellow's work. In the little town of Hersey, Wis., there's a pub bearing the sign, "The Hersey Bar."

► A state of emergency exists in California because of a sheep disease known as "scrapie." With the Russians taking credit for everything else, we'll just let them have this one without an argument.

► Americans continue to be a puzzle to foreign people, like the man from Italy who read of handloom weaving in this country and wrote to ask us about the economic foundation that supports the production. It's a problem trying to explain our American hobbies. From an economic standpoint, it can't be done. Take fishing, for example; we spend tremendous amounts of money for tackle, travel to out of the way places to catch our own fish—when we could buy fish for the family for a buck. Foreigners must have thought us due for a revolution during the political campaign.

► Everything comes to him who waits; North Carolinians have not only patented a wrap stripe stop motion for circular knitting machines, but they have developed insulating apparatus for bathtubs. Tub bathers are now comfortable, but shower bathers are still out in the cold.

► "What happens to your pamphlets" is the catchy heading on a sales piece outlining the virtues of a new self-binder (name on request) for catalogs, sales manuals, periodicals, trade publications, etc. Readers of TI already save their issues, but the binder is a useful gadget for other literature. Enough of them and they'd replace the waste basket.

► This report on women's outerwear has us worried. Both the blouse industry and skirt industry show sales decreases, but the dress industry sales are increased. We thought the girls were trying to save time. Our secretaries say no. Well, then, why?

► A manufacturer of auto baby harness writes that he has a greatly increased advertising appropriation, and would we run an announcement (free) on the baby harness to determine reader interest. Our market research department studied the case and found (1) textile folks do have babies (2) their babies are allowed in automobiles (with parents) (3) babies use more diapers than harness (4) suggest advertising diapers because of bigger market.

► TI aims to give a well rounded editorial treatment in all fields. Here's how a cow makes milk and the problems involved. Milk is formed from materials in blood by the mammary gland; in periods of heavy production when minerals in the cow's diet are not sufficient to meet the demands, she uses the minerals in her skeleton. A cow should be fed properly to reduce the wear and tear on her skeleton.

► That ends our lesson on dairying. For textile discussions please turn the page, and keep your eye on TI—remember TI spelled backward is IT.

P. S. A scribbled note from the boss says "Please, no more corn on company time."

Optical Comparator

"With very great interest . . . 'Fine Gauge Machines Require Better Upkeep' . . . June 1952. . . . give us address of makers of 'Optical Comparator.'"

L. TEN CATE

Managing Director
L. Ten Cate N. V.
Geesteren (Ov.) Holland

► Comparator manufactured by Jones & Lamson Machine Co., Springfield, Vt.

Tar Spots are Contagious

"In your May issue I read interesting report on the 'Quality Control Conference' at Georgia Tech . . . interested in talks on tar spots . . . encounter the same trouble here."

FERNANDO BEIRO

Cia. Textilera Ariguanabo
Habana, Cuba

► American mills caught the disease over a year ago—must have migrated to Cuba. TI for August, September, October, and December, 1951; March and October, 1952, carried information on "tar spots."

Long Service . . .

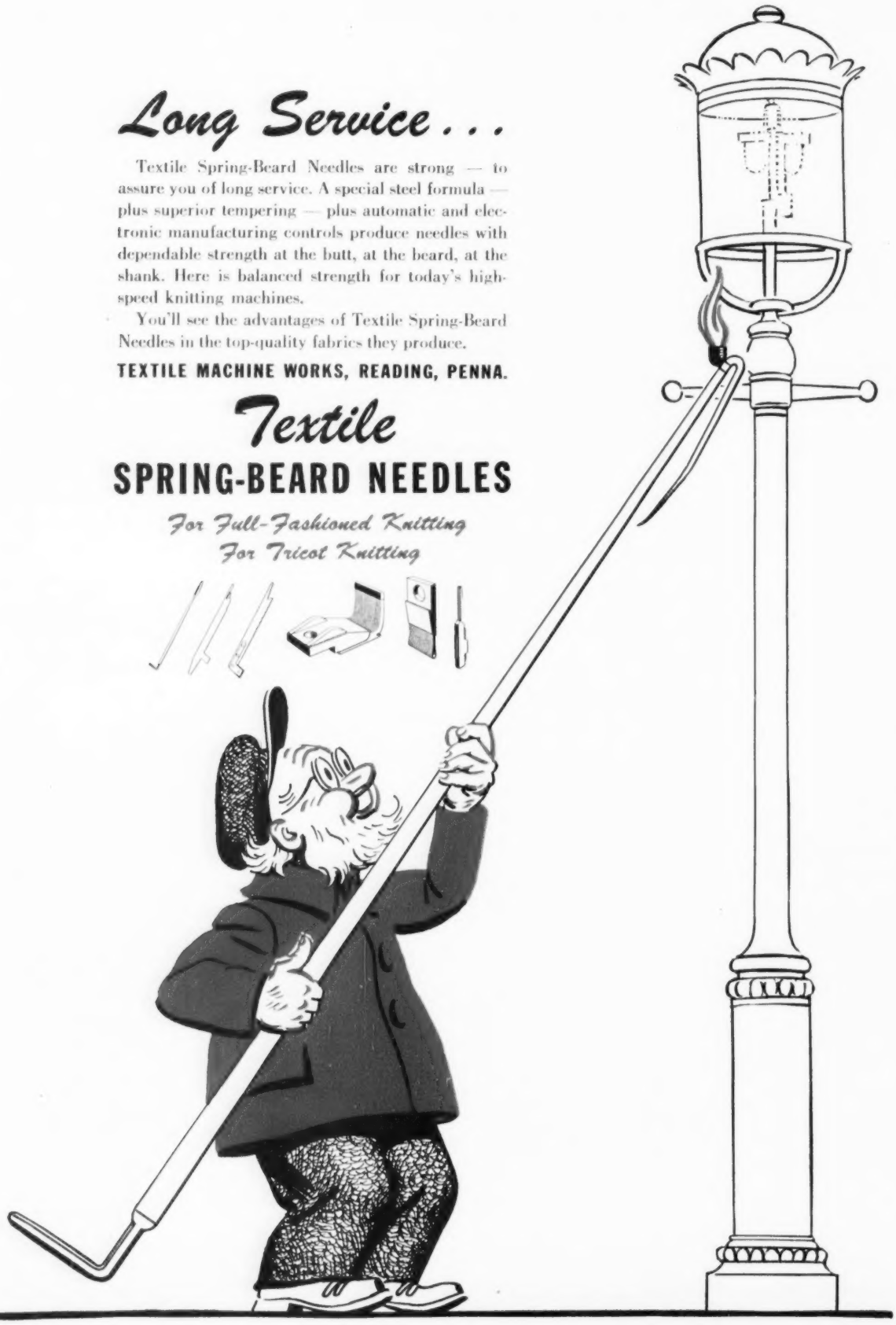
Textile Spring-Beard Needles are strong — to assure you of long service. A special steel formula — plus superior tempering — plus automatic and electronic manufacturing controls produce needles with dependable strength at the butt, at the beard, at the shank. Here is balanced strength for today's high-speed knitting machines.

You'll see the advantages of Textile Spring-Beard Needles in the top-quality fabrics they produce.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile
SPRING-BEARD NEEDLES

For Full-Fashioned Knitting
For Tricot Knitting



Report on New England's Textile Industry

On November 20, 1951, the Conference of New England Governors appointed a committee to study the New England textile industry. Exactly a year later the committee formally presented its Report on the New England Textile Industry to the Governors' Conference.

The report severely criticizes the people and politics of New England, its textile management for short-sightedness, cites factors leading to New England's dilemma, recommends Federal legislation on a national basis for the textile industry in one section of the report but the placement of Government contracts on a regional basis in another; calls for the New England public to have better textile relations, suggests southern acceptance of unionism as a vital necessary force, and contains the analogy that New England virtues in the 1920s and '30s compared with those of the extinct dinosaurs: "Eat it up, wear it out, make it do, go without."

The report ends with the recommendation that instead of recalling past glories, castigating past failures, and embracing future catastrophy, New England must devote the energy and invention which have always been her greatest resource to meeting this challenge of the present.

A condensation of the report, prepared by New Englanders, one of whom is a textile manufacturer and another a former woolen manufacturer, is presented without editorial comment.

THE TEXTILE industry is still the most important industry in New England; one in every five to six manufacturing jobs is a textile job. From 1919 to 1950 in textiles the nation gained 6% and New England lost 37%.

Accounting for Losses in New England Textiles

1. Major explanation is the large differential between wage costs in New England and the South, about 10% in early 1951. Study suggests a gain of efficiency in the South.

2. Differences in work assignments are substantial, though such differences are frequently exaggerated and cannot be precisely measured. The presence of trade unions in New England and their absence as a rule in the South account for a large difference in work assignments.

3. New England management must share responsibility for losses. It failed to keep up in research, in investment, in technology, and in marketing — particularly in the '20s and '30s. Managements in woolens and worsteds must now awake to their dangers if they are not to experience years of migration already familiar in cotton textile towns.

4. Other general factors: high costs of Social Security in New England; heavier taxes; archaic tax structure in New England (and tax subsidies in the South); higher power and fuel costs; dearth of raw materials; distance from markets; disadvantageous differential in trucking rates; smaller aid rendered by the Federal Government to New England than to the South; inadequacy of state government and community responsibility and cordiality.

Recommendations for Correcting Situation

1. Reduce wage differential. Not by wage cutting, but by not fully offsetting a rise in southern wages; watch contribution of fringe benefits.

2. Raise minimum wage under the Fair Labor Standards Act.

3. Trade unionism should be accepted as a vital necessary force in the South as it is in New England. A spread of trade unionism in the South will help to reduce differentials in wages and in work loads.

4. Northern labor urged to be more receptive to adjustments in work loads; management must also improve its analysis of the problem. Recommend a new arrangement for studying and reporting on changes in work loads; a permanent committee of experts should be set up by labor and management for expediting changes and even for providing benchmarks for work loads.

5. Increases in productivity are a must; this goes beyond just revisions in workloads. Committee findings in this respect: lack of cooperation among some employees, excessive managerial staff, nepotism, failure to modernize, tendency to take too much profit out of business, plants built for another age, inhospitality to new ideas; failure to produce the newer blends, to spend enough on research, to support textile schools and reluctance to hire their graduates.

6. Formation of New England Textile Committee, representative of labor, management, community, and government — to keep the industry abreast of latest advances in research, technology, finance, work assignments, markets, defense contracts, and legislation. This recommendation made with some hesitation, but bold measures are needed.

7. Tax reform, e.g., general property, corporate tax, tax free charitable trusts, shorter period of depreciation.

8. Reduction in power and fuel costs, trucking rates; take steps to offset subsidies offered by southern communities; examine Federal policies that have repercussions on New England [such as agricultural subsidies].

9. [Get] special consideration on defense contracts. "It is our view that they should not be awarded exclusively according to price bid . . . Government should consider the amount of unemployment in different regions, states, and local areas."

10. Exercise caution in reducing tariffs on textile products; organize New England Congressmen on behalf of NE interests [as do Southern Congressmen].

11. Improve community attitudes towards textiles; communities should welcome textile firms, thus at the same time improving the social status of textile employees.

12. Quit burying New England's textile industry publicly.

"In spite of grave injustices and large disadvantages, in general the people of New England have themselves to blame. New England virtues are good virtues. So were the virtues of the dinosaur . . . With New England in '20s and '30s [the virtues were] eat it up, wear it out, make it do, go without.

" . . . instead of recalling past glories, castigating past failures, and embracing future catastrophy, New England must devote the energy and invention which have always been her greatest resource to meeting this challenge of the present."

Good Carpets from Good Cops

Staff Prepared

VACUUM is employed at A & M Karagheusian's Freehold, N. J., carpet mill to impregnate filling cops with liquid size. Treated jute, cotton, or cojute cops can be handled without troublesome ravelling, filling unwinds more easily in shed, and woven carpet has superior texture and pile quality.

EXCLUSIVE

EQUIPMENT employed in such diverse industrial processes as the filling of thermometers, evacuation of electric light bulbs, freeze drying of blood plasma, and the bleaching of baseball bats is finding novel use at A & M Karagheusian's Freehold, N. J., carpet mill. All these operations require high vacuum. By the same means, Karagheusian now impregnates filling cops with liquid size.

Three years of experience in the technique of vacuum impregnation has amply shown that treated jute, cotton, or cojute cops can be handled without troublesome ravelling, that the filling unwinds more easily in the shed, and that the woven carpet has superior texture and pile quality. Principle reason for these noteworthy improvements stems from the uniform distribution of size throughout every pore of yarn which results from vacuum impregnation.

Not only is the vacuum-impregnated cop superior to the cop sized in a dip tank but it also permits important savings in time and labor, according to officials at the mill. Karagheusian can size 2000 cops in less than an hour.

What Is Vacuum Impregnation? Vacuum impregnation is the process of filling voids in porous materials with a desired impregnant after air and moisture have been removed. It permits treatment of materials which would be difficult to impregnate satisfactorily under atmospheric pressure. Thus, it is ideally suited for tightly wound carpet cops that are resistant to penetration by ordinary means.

Karagheusian's venture into vacuum impregnation came about when plant expansion and increased carpet output demanded a completely new technique to supersede the common practice of soaking cops—a new technique which would meet production requirements, reduce labor costs per unit, and produce perfectly sized cops.

They found the reply to the challenge in a Stokes-designed impregnation process. The apparatus includes a size cooking vessel, a size storage tank, a vacuum chamber, a pump and vacuum condenser, and necessary piping, valves, controls, and electrical circuits. The entire installation occupies about 800 square feet. Working capacity of the vacuum tank and storage tank runs to 500 gallons. The tall, cylindrical tanks are

serviced by the operators from access platforms. Nearby is an instrument panel which affords automatic control of the vacuum impregnation cycle.

Both size tanks are steam jacketed, allowing cooking temperatures for size preparation and 190 F storage temperature. Cooking temperature and time are automatically regulated at the control panel. The two tanks are furnished with agitators to insure uniform consistency of the size solution. Necessary instruments for checking heat and pressure are integral with the tanks.

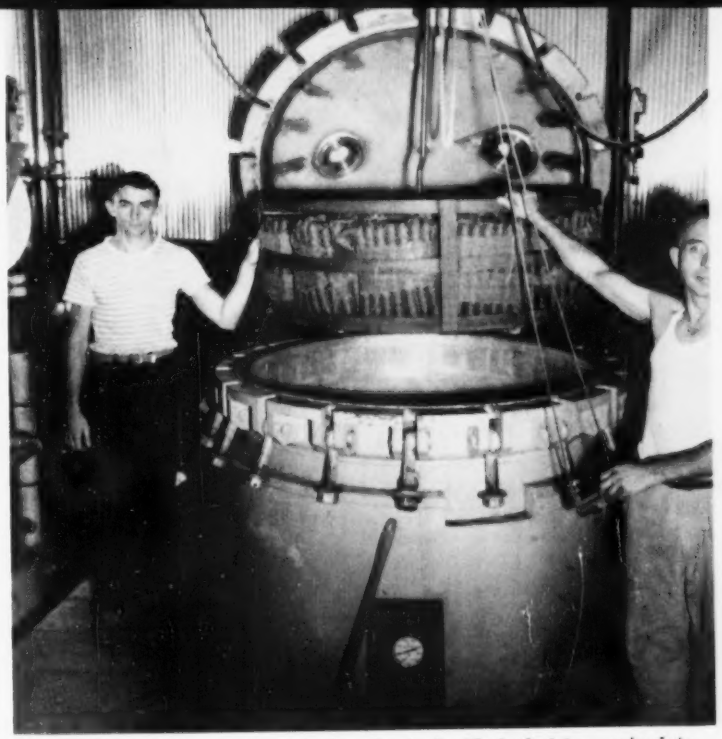
Impregnating Operation. Karagheusian splits the vacuum chamber load into three units, tiered one above the other and manipulated by chain hoist. Each unit is a tray holding 15 bundles of cops packed 45 to the bundle. Mesh bags used to hold the bundle of cops are reusable. It takes only a few minutes to make up the load. Then it is transported to the vacuum tank and dropped in position. The tank's cover is secured by eyebolts, and the actual impregnation cycle is started.

Air is exhausted to obtain a 29-in. vacuum which is maintained for 20 minutes. At the end of this time the cops are completely free, for all practical purposes, of air and moisture. The pores are void of air and will not resist the entry of the size solution.

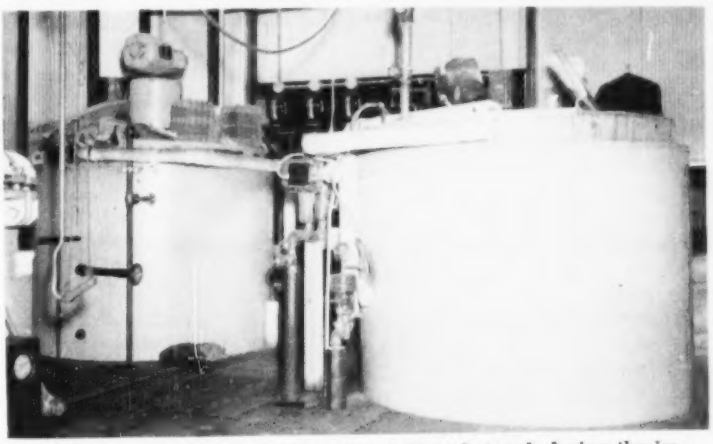
An interconnecting valve between the vacuum tank and impregnant storage tank is opened, admitting size to the vacuum chamber. The impregnant flows into the vacuum tank until the top tier of cops is covered as observed through sight glasses and electric spotlight built into the tank for inspection purposes.

The valve connecting with the storage tank is then closed and the vacuum line shut off. 85 psi pressure is applied to the impregnant size for 30 minutes.

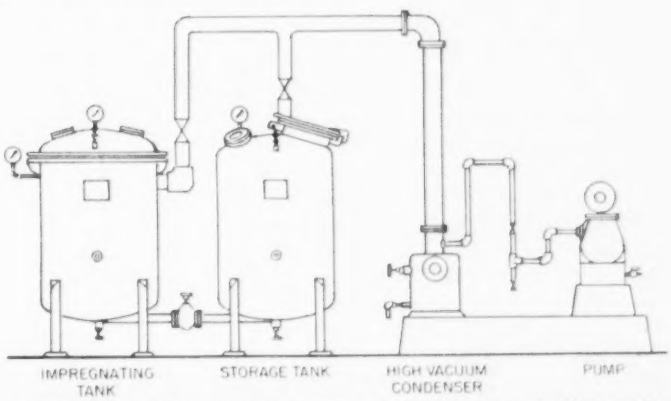
After air pressure is relieved, the excess portion of size solution is drawn back to its storage tank by vacuum and reverse valving. The treated cops are removed, transported to a humidity controlled storage room, and kept moist until requisitioned for the weave shed.



THREE TRAYS are tiered inside the tank. Chain hoists manipulate the heavy loads. After cover is secured by eyebolts, the tank is exhausted to 29 in. vacuum.



SIZE is prepared in the tank on the right and stored, during the impregnation process, in the tank on the left. Both tanks are steam jacketed and equipped with agitators.



SIMPLIFIED SCHEMATIC drawing of vacuum impregnation equipment. Size preparation tank is not shown.

Why Not Variable Spinning Speeds.

IN THE June issue of the *Research Review* prepared by the New York University College of Engineering, director H. W. Work makes the following statement: "The fact is that most of the important developments in basic research continue to come from European laboratories."

Such a general statement cannot be accepted because, especially in the textile industry, American basic research and its application in textile manufacturing is in many respects ahead of European developments. One example is cotton fiber research and its utilization in cotton fiber testing. Another is scientific work load determination with a full understanding of and emphasis on human relations.

However, there can be no doubt that many very important new developments in the textile industry have originated in Europe. These include some of our best known drafting systems, control instruments, etc.

Traveling through Europe while studying industrial developments and manufacturing methods, one is tremendously impressed in finding that there are several technological practices that have been readily accepted there, but which, although known here, have found little or no response in the United States. This is not without parallel in our history. A good example is the hot air slasher, which had completely replaced cylinder slashers in Europe by the late 20's, but was not taken into consideration over here until after World War II.

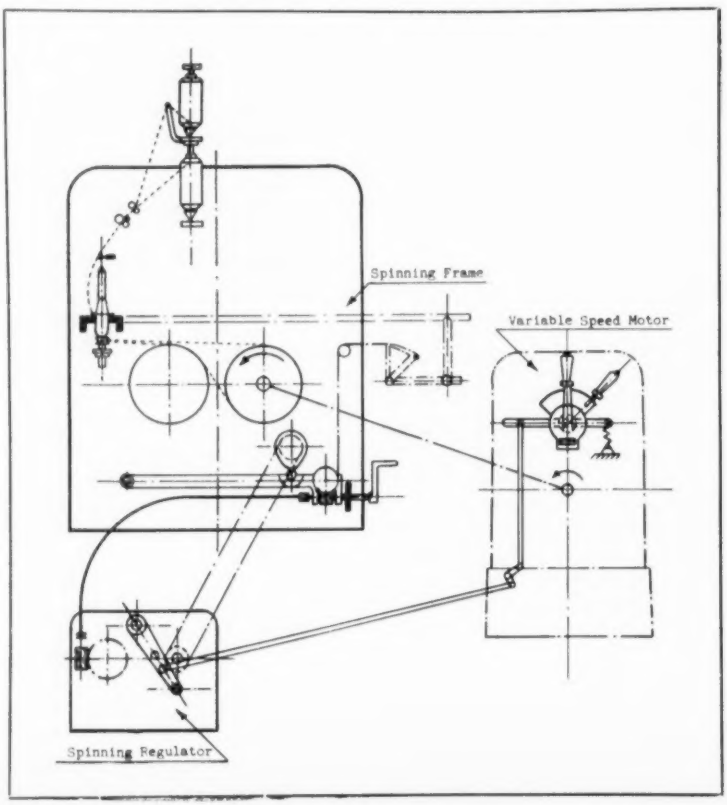
Why is that true? Are we missing a good opportunity? Generally, the American textile industry is much more enterprising. Therefore, one must assume that there are very good reasons why variable speed drive motors with spin regulators for spinning frames, and metallic card clothing for cotton cards have not been accepted in the United States to any large extent, even though widely used abroad. What are the reasons why these items have not been adopted here? What questions do they pose for mill management in the U.S.A.?

Variable Speed Drive with Spin Regulator for Spinning Frames

Many of the modern European mills today have variable speed motors with spin regulators on all their spinning frames. Fig. No. 1 shows a diagrammatic arrangement of the ring spinning frame with variable speed drive and spin regulator. Fig. No. 2 illustrates the operation of the spin regulator.

The basic idea behind this drive arrangement is to vary the speeds of the spindle with every traverse of the ring rail from the beginning to the end of the bobbin-building operation, in order to operate with uniform tension throughout a doff. When winding on a small diameter the winding speed is lower; on the large diameter the winding speed is higher. Similarly, at the beginning of the doff the speed is lower and increases continuously until it

FIG. 1. Spinning frame with variable speed drive and spin regulator.



reaches, when winding on the largest diameter, a speed which is considerably higher than the one normally permissible with a constant drive.

There is not a great deal of literature available on this subject. However, one of the latest articles is "Spinning Regulator, Thread Breakage, and Tension," by H. Wildhader (Brown, Boveri & Co., Ltd., Baden, Switzerland).

The following advantages are the most generally quoted abroad with regard to the use of variable speed motors with spin regulators:

1. The yarn quality can be improved by: (a) uniform tension, (b) using lower twist factors, (c) spinning with fewer ends down.

2. Production increases of up to 15 per cent can be obtained.

The following arguments may be brought out in opposition:

1. The high cost of the commutator motor with spinning regulator.

2. Production increase is not always obtainable, particularly not for those counts where the traveler speed is the limiting speed factor.

3. Maintenance costs are increased; speed control as well as adjustment for yarn changes are more difficult.

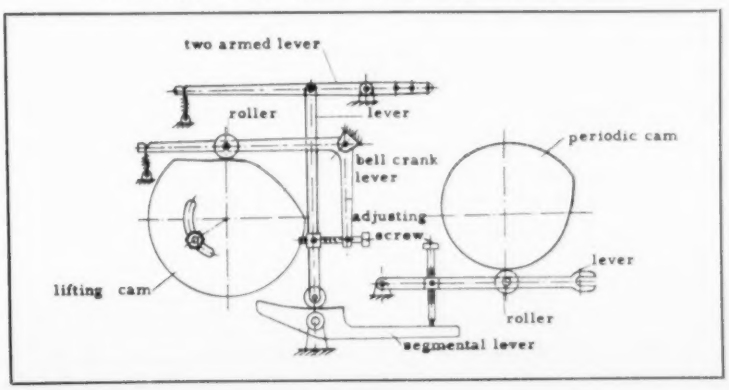
Some of the questions which are open for discussion in this country include:

1. How can variable speed drives and spin regulators be advantageously utilized on frames with "standard or combination warp wind?" (Limited data is available because these are used infrequently in Europe.)

2. For which yarn counts, based on the optimum ring diameter used by American mills, can this driving arrangement be advantageously utilized?

3. To what extent is this variable speed of particular interest for all low twist yarns (filling, knitting, hosiery, etc.)?

FIG. 2. Sketch showing how the spin regulator operates.



Metallic Card Clothing in U. S. A.?

ON A RECENT study trip, the author observed many technical developments utilized by European textile mills, but not adopted in the United States. In this article he poses several searching questions in this regard. The editors of "Textile Industries" will welcome the views of its readers on the questions advanced.

By HERBERT L. WERNER
Senior Partner
Werner Textile Consultants

EXCLUSIVE

Metallic Rigid Card Clothing

Metallic rigid card clothing has been widely accepted for many types of raw materials by the wool and worsted industry in the United States. However, all but a handful of cotton mills are still using the standard fillet card clothing on cylinders and doffers.

It is estimated that almost 50% of the European cotton industry is using rigid metallic card clothing on cylinders and doffers for cotton and synthetics. In France, almost 90% of all cards are said to to be using this card clothing. In Germany, the textile industry has gone as far as setting up industry-wide standards for metallic card clothing in the cotton and synthetic industry (See Figure 3).

Metallic card clothing is generally not suggested for the flats, because it has been found that fillet clothing on the flats together with rigid card clothing on the cylinder gives a better cleaning effect.

In this connection, it is interesting to note that a new fillet card clothing for flats is now being offered in Europe, as shown in Figure 4. These flats have two contact points with the cylinder

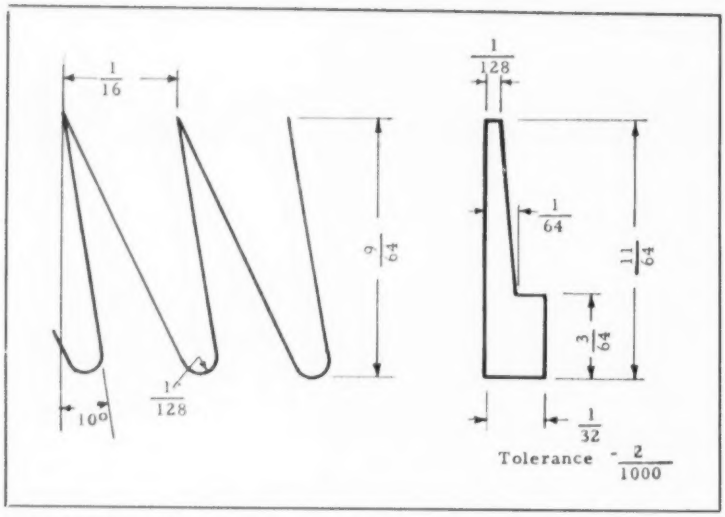


FIG. 3. Proposed German standard for metallic card clothing for spun rayon and cotton (measurement in inches).

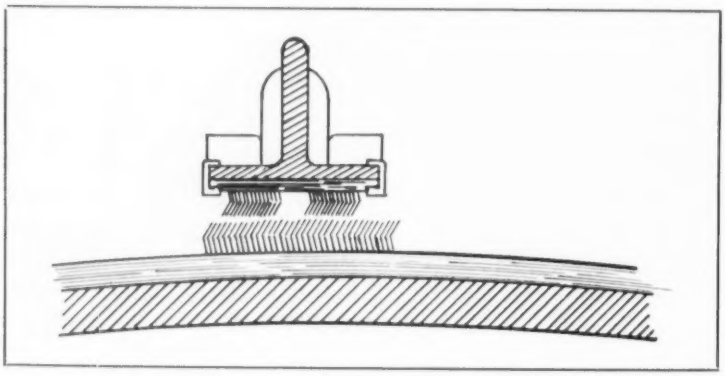


FIG. 4. New type of fillet card clothing for flats.

which facilitates the setting of the flats to the cylinder and gives a good carding action, even with as wide a setting as .012-inch or .015-inch.

What is the reason for our industrialists not going along with their European counterparts? The following advantages and disadvantages are cited:

Advantages

1. The results are equally good for cotton as well as synthetics and the same clothing can be used.

2. For synthetics, particularly, the number of neps per grain is being largely reduced.

3. Labor costs are reduced because: Cards are being stripped at a maximum of every 40 hours—possibly less—instead of every 3 or 4 hours. For synthetics no stripping is necessary. Cards are being ground very infrequently or not at all instead of every 2,000 - 2,500 lb.

4. Stripping waste is reduced by at least 75% due to reduced frequencies.

5. The sliver is more uniform because the variations normally experienced before and after stripping are practically eliminated.

6. Production per card, taking into consideration only the reduced loss of time for stripping and grinding, is increased by approximately 7.5%.

Disadvantages

1. The U. S. cost for the clothing—on a mass-production basis—would still have to be estimated. In Europe the prices quoted for rigid and fillet clothing are practically identical. The lifetime of both clothings is generally considered equal.

2. The installation cost of rigid card clothing is higher than that of fillet card clothing.

3. The rigid metallic card clothing adds approximately 500 lb to the net weight of each card (weight without clothing). This, particularly if cards are not on the ground floor, makes its use prohibitive, if the building construction cannot carry the additional load.

4. Any damage to the clothing by foreign matter or clogged-up cards is more difficult and costly to repair. However, it should be mentioned that any defective part or section of the clothing can be replaced without replacing the entire clothing.

5. A larger development of dust in the card room and around the card is usually experienced.

6. More exacting work will be required from the fixer, in view of the fact that more care may have to be given to card settings and maintenance.

Prominent among the open questions on this equipment are the following:

1. What is the lowest price at which the clothing could be made available to the U. S. cotton industry? What difference (if any) in cost would have to be accounted for (completely installed)?

2. To what extent should the grade of the cotton used influence any decision with regard to metallic card clothing?

3. Can the speed of the cards be increased and equal quality maintained by using metallic clothing?

Neither of the forementioned developments is new. However, they have not been carefully studied in detail since the end of World War II. Conditions have changed with regard to wages, the trend of revamping mills, and building new mills. It, therefore, seems worthwhile to reconsider the position of the American textile industry towards variable spinning speeds and metallic card clothing. Offhand, one would assume that the American textile industry could obtain a good return on its investment in this equipment, considering that such installations have proved economically feasible in Europe, where

Cotton and Synthetic Woven Goods Finished During 1951

A total of 8,677 million linear yards of cotton, silk, and synthetic fabrics were finished during 1951, according to a recent report from the Bureau of the Census, Department of Commerce. This was 7 per cent below the 1950 figure.

South Carolina led the nation in the production of finished cotton woven goods with an output of 1,218,821,000 linear yards; Massachusetts was second with a total of 1,069,070,000.

Silk and synthetic fabrics accounted for 23 per cent of the total yardage finished.

Total yardage of cotton fabrics finished amounted to 66 per cent of grey goods production, and for silk and synthetic fabrics the total yardage finished amounted to 84 per cent of production.

More than 31 per cent of the total yardage finished were women's and children's dress and underwear fabrics. Fabrics finished against military contracts amounted to 6 per cent of the total yardage finished.

Contained in the report are tables showing the following:

(1) Yardages of cotton, silk, and synthetic fabrics finished, by type of finish, 1947 through 1951;

(2) A comparison between total yardage of cotton, silk, and synthetic fabrics finished and "off the loom" production of these fabrics during 1951;

(3) Yardage finished by type of fabric and type of finish for 1950 and 1951;

(4) Total yardage finished by state and type of finish;

(5) Distribution by end-use of the cotton, silk, and synthetic fabrics bleached, dyed, or printed and finished during 1951 and 1950;

(6) Textile printing machines in place, active and idle, or in storage as of September 30, 1951.

Chinese Graduates and Students in America Need Jobs, Help

When the communists took over the mainland of China, thousands of Chinese studying in America were cut off from their families and funds. Although many of these Chinese nationals have finished their studies, under funds formerly earmarked for China by the Marshall Plan, those with technical knowledge or other information that might be useful to communist China are not permitted by the U. S. government to leave the country. And for many who have not completed their educational objectives, scholarship funds are now needed to continue.

A survey has been made by the China Institute in America, 125 East 65th St., New York 21, N. Y., of the Chinese who need assistance or who are seeking positions in American industry or business. The Institute has a job placement service to aid in bringing together Chinese and American businessmen who can offer them employment. Henry R. Luce is chairman of the Institute.

Many of the Chinese have been trained in the textile and allied fields.

Communist pressure is said to be unrelenting on Chinese graduates. They are promised a fabulous future if they will carry their American know-how back to communist China; the communist propaganda could affect them in their decisions, it is pointed out, especially when they need cash for food and shelter.

The Institute desires to contact American business men who are interested in keeping these Chinese men and women in jobs in this country, the ultimate aim being to insure wholehearted and friendly cooperation for the future.

Nylon Crepe Fabric Made by Duplan

The Duplan Corporation has announced the development of nylon crepe fabrics and that these fabrics are now being woven in company mills.

The fabrics are said to have the beautiful pebble surface of a true crepe made possible by "Tekneek" yarn for which a patent has been applied.

The new nylon crepe will not sag, it is claimed. It has the heat setting qualities of nylon which make it possible to design garments with permanent pleats. The crepe has the further advantage of being sewed without any sign of puckering at the seams. Beautiful draping qualities are also provided.

The original production of fabric will go into higher priced women's dresses, blouses, and other garments.

capital is more difficult to obtain and wages are considerably lower than on this side of the Atlantic.

In view of its high cost, the variable speed drive may be considered only where spinning frames are being motorized or replaced, or where new mills are being erected, unless high quality, low twist yarn is of extreme importance.

If research of all the problems should merit the use of metallic card clothing by only half of the industry, a minimum cost reduction of approximately $7,500,000 annually can be realized.

What do you think about the relative merits of these accessories?

Cone Mills' employee suggests

Siren for Weave Room Beam Hoist

Hoist operator sounds siren before starting down aisle with beam. Accidents are avoided.

Staff Prepared
EXCLUSIVE

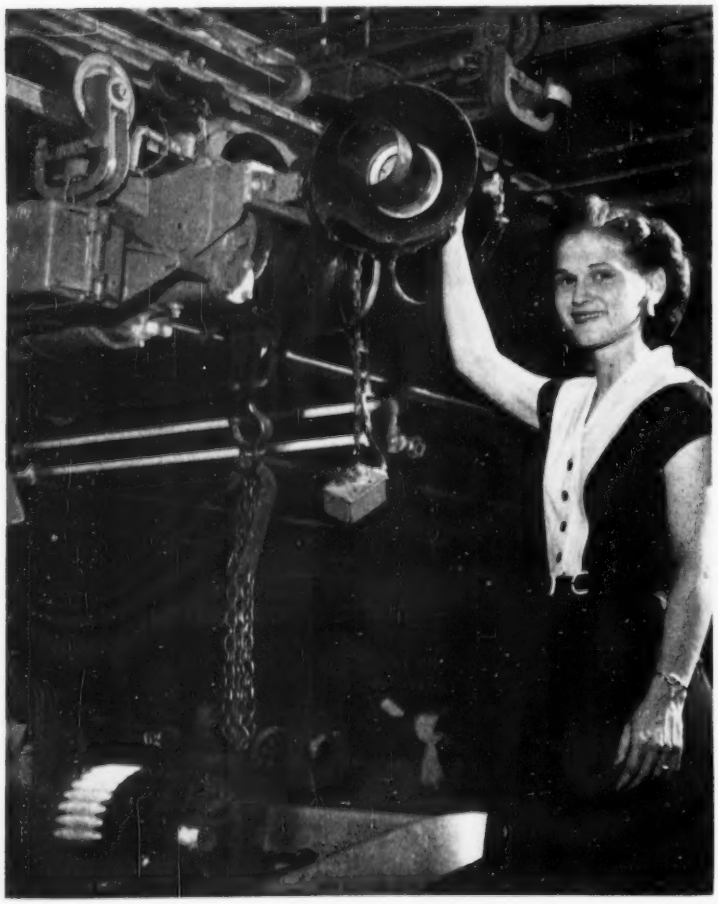
AS THE RESULT of a suggestion by Mrs. Elaine Vick, of Pineville, N. C., weavers and other employees in the weave room are well forewarned when a loom beam starts toward them. A large siren, driven by an electric motor, is sounded by the beam hoist operator before he starts down the aisle with a beam. The siren is easily heard throughout the weave room over the noise of the looms, and any weaver can quickly note whether the beam is headed in his direction.

At Cone Mills Corp., in Pineville, beams are handled on an electric hoist which lifts the beam so that it may be pushed by one operator to the loom where it is needed, the hoist rolling along an overhead rail. The hoist operator, pushing the beam from behind, could not see what was ahead of him, and two accidents resulted—one in which the moving beam knocked a man from a ladder, and another in which a man was pushed from the top of a loom.

There has not been an accident since the siren was installed, for it sounds a warning so loud that it could not be ignored.

The Cone Mills Suggestion System, under which this idea was submitted, differs from most suggestion systems in that the ideas from employees, filled out on a standard form, do not go into a suggestion box but are given to the assistant overseer of the department. The assistant overseer writes his comments on the form and passes it on to the overseer. The overseer writes out his opinions and passes the form on to the superintendent, who follows the same method in passing the suggestion to the vice-president.

The vice-president writes the employee a letter, congratulating him or her, and a check is enclosed for acceptable suggestions. Under this system the supervisors are not by-passed.



SIREN ON BEAM HOIST. Mrs. Elaine Vick poses with the safety device she suggested.

CLIP THREADS lower quality if allowed to go through on finished goods. Each one of these socks will be clipped individually.

At Montgomery Knitting Mill

Socks Get Individual Attention

The Result: Enviable quality standards for children's socks are maintained. Read this to-the-point account of the mill procedure.

Staff Prepared

EXCLUSIVE

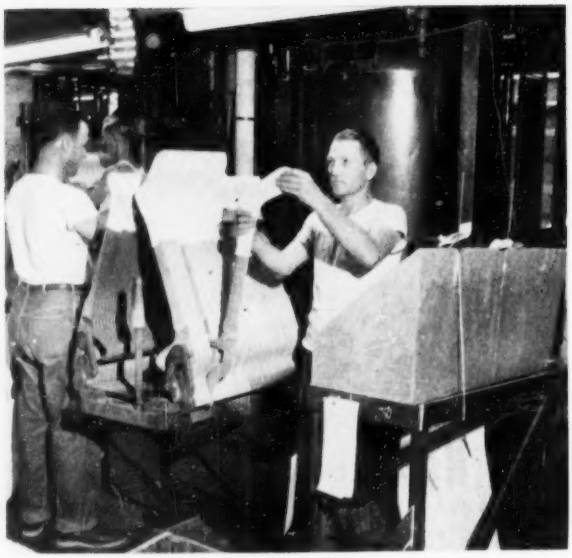
FINISHING operations, following first inspection after looping, are considered of primary importance in maintaining quality standards at Montgomery Knitting Mill, Summerville, Ga. 28 years in the business has proved the point to J. R. Burgess, superintendent.

According to Mr. Burgess, when seconds slip through into the finished "firsts," and the customer receives a few such shipments, the bad lots are either returned to the mill—or another mill gets the business. This mill has never had a lot of hosiery returned because of seconds or for any other reason. W. C. Sturdivant, president and general manager of Montgomery Knitting Mill, is a firm believer in maintaining quality above other considerations, and he has instilled the philosophy in the mill operatives. The work is made to match the sample.

This mill makes mercerized (and gassed) plain-stitch children's anklets, sizes 3-10½, 70 gauge, rib transfer top. Nylon reinforced heel and toe construction is embodied in all cotton socks, and some 100% filament nylon socks are produced. Only Standard H machines are used in this plant.

Procedure. After first inspection,

DYE LOTS are made up according to customer order sheet. Harper Edwards (right) checks order sheet while P. W. Gayler segregates quantities and sizes.



ALL-NYLON GOODS are handled differently in that a boarding operation is necessary to "set" the stitch. Meticulous care is exercised in every operation.

INDIVIDUALLY HAND-TRIMMED to remove clip threads. Operators use scissors and clip each sock separately.

400 DOZEN PAIRS are inspected by one operative in eight hours—a notable figure in view of the fact that every sock is handled individually.

the goods are taken to the stock room where they are segregated into quantities or lots of different sizes to be dyed according to the order number and specifications from the customer. All-nylon goods are handled differently in that a boarding operation is necessary to "set" the stitch, and developed colors are used in dyeing the nylon socks.

Every sock receives individual attention in both production and inspection operations. Cotton socks are dyed with vat colors to prevent fading or streaks upon laundering while in service.

A system is used in all dyeing operations, and the system is followed the same way in every detail each time an order is filled. A few of the pertinent details in maintaining quality standards in this mill show that common methods and materials are used; however, the secret lies in exercising meticulous care in following a uniform pattern of operations and in processing each sock as a production unit after dyeing.

Dyeing. In dyeing, all materials are carefully weighed and measured, including the penetrants or wetting agents. On chlorine vat colors (blue for example) corn dextrine is used to keep the blue

Second Report on Market Outlets for Cotton

The fact that different mills do not necessarily use nor desire the same qualities of cotton in making a particular product is described as one of the most important findings of a recent study of market outlets for cotton fabrics.

The quality of cotton used by an individual mill is determined not only by the fabric to be produced but also by the processing equipment used, the manufacturing organization and efficiency, labor and raw material costs, and the specific quality of the product desired, according to information contained in Marketing Research Report No. 25 entitled "Market Outlets for Cotton in Some of the Principal Cotton Fabrics" recently published by the United States Department of Agriculture.

Supplementing an earlier report by the same title issued in February 1950 in which was given the results of detailed laboratory tests and other facts pertaining to 10 fabrics, it gives results of tests and other determinations with respect to 15 additional fabrics as follows: Flannel, gingham, chambray, seersuckers, terry toweling, huck toweling, corduroy, jacquard bedspreads, non-jacquard bedspreads, drapery, carded uniform twill, combed uniform twill, other carded twills, carded army sateen, and tire cord.

The quantities of cotton used annually during the last two decades for each of the 15 fabrics were estimated from Bureau of Census fabric production data. Annual per capita consumption was estimated, as well as the proportion of total consumption, with respect to each fabric. These estimates provided a basis for measuring market outlet potentialities for the various fabrics.

Of the 15 fabrics, flannel and terry toweling were the most stable with respect to the annual quantities consumed. From present indications, these fabrics should continue as steady outlets for cotton in the future. Corduroy showed a consistent upward trend as an outlet for raw cotton. Bedspreads and draperies appeared to have good potentialities as uses for cotton. For tire cord, cotton now has heavy competition from rayon; nevertheless, tire cord is still one of the large outlets for raw cotton.

Rayon and Acetate Production Highest Since Third Quarter of 1951

An analysis by the "Textile Organon" of third quarter production of rayon and acetate reveals that output totaling 310,600,000 pounds was 24 per cent over the second quarter and the highest figure since the third quarter of 1951 when 337,300,000 pounds were produced. The third quarter output was made up of 227,800,000 pounds of filament yarn and 82,800,000 pounds of staple.

Viscose high tenacity production, as in the preceding quarter, remained close to capacity levels during the third quarter. Rayon staple and tow, while not using productive facilities to the same extent as high tenacity filament yarn, also showed a continuing high level of production from the second to the third quarter of the year.

In the acetate category, both filament yarn and staple, third quarter production rose sharply compared to the second quarter, as did rayon regular tenacity yarn. Acetate yarn production in the latest quarter at 77,900,000 pounds was 85 per cent greater than in the preceding quarter and was not far short of the high production rate maintained throughout 1950 and the first nine months of 1951. While the increase in acetate staple + tow was not as spectacular, third quarter production of 29,600,000 pounds was 56 per cent higher than the preceding quarter.

Third quarter output of rayon regular tenacity yarn amounted to 44,000,000 pounds, a gain of 37 per cent over the second quarter, which was a low point for this division of the industry.

from breaking down and producing a dull finished color. A reducing procedure lowers the bath from 212 to 180 F over an interval of 15 minutes to secure good penetration and to exhaust the dye bath. Then hydrosulfite is added to reduce the color, and temperature is lowered to 160 F. A running wash is applied until the bath reaches room temperature.

Hydrogen peroxide is used to oxidize the goods before soaping at a boil with 2% soap on the weight of the goods. Next the goods are rinsed and finished. If softness is desired, a cation softener is employed; 1% on colors, 2% on white goods. To get good penetration on pastel colors, sodium sulfoxilate formaldehyde is used instead of hydrosulfite.

On white goods, a chlorine bleach is used, and the goods are scoured and rinsed. 12% or 15% chlorine on weight of the goods is used in the bleach. The goods are scoured with oxalic acid to neutralize the chlorine. A whitening agent is also used, and the goods are rinsed and finished.

Hand Operations. After the dyeing and boarding operations, the socks are individually hand-trimmed to remove loose threads. The operators use scissors, and every sock is hand-clipped in this way. Then the inspectors examine each sock; this operation is entirely manual. One inspector inspects 400 dozen pairs in eight hours; a notable figure in view of the fact that every sock is handled individually.

Cloth Wrapping Simplified

Home-made "Gizmo" makes wrapping of rolls of cloth with hard-to-handle paper an easy operation to perform.

Staff Prepared
EXCLUSIVE

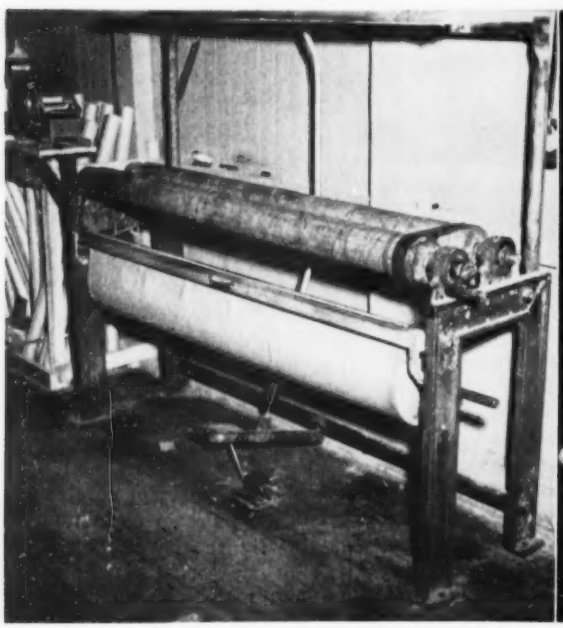
HEAVY brown waterproof paper is now used at Hermitage Cotton Mills, Camden, S. C., to cover rolls of cloth for shipment. Until a few months ago, burlap was the standard wrapping material for all rolled cloth, large or small, but now the smaller rolls are covered in the paper, which costs only a third as much as burlap, and which makes a smooth, tough, and dirt resistant cover.

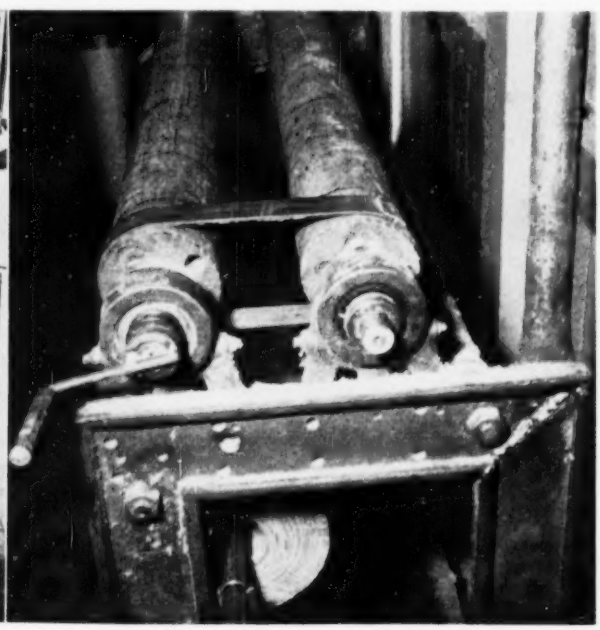
This heavy paper is, however, hard to handle, and it was difficult to get a good, tight wrap until I. P. Pitts, the superintendent, and Joe Rhodus, the master mechanic, got together and designed and built a wrapping machine which they call a "Gizmo." This home-made machine makes wrapping rolls of cloth an easy job, and the wrap is always smooth and tight.

How the "Gizmo" is made

Design. "Gizmo" is a simple machine which can be constructed in a few hours in any mill shop. Design of the machine is clearly shown in the two photographs below. It consists of a frame which was cut and welded out of the frame of a piece of discarded textile machinery. A pair of bearings is mounted at each end of the frame, as shown, and a pair of rollers is mounted with their shafts in these bearings. These particular rollers were made by plugging the ends of 6-in. pipe with ends and shafts from old sand rolls from looms. A crank was welded to the shaft of the front roller, and a belt was run between the two rollers so that both rollers revolve when the crank is turned.

Beneath the frame there is a hanger to support a rod which runs through the center of the roll of heavy paper used to wrap the cloth. The paper comes off the roll through a guide similar to that used to tear



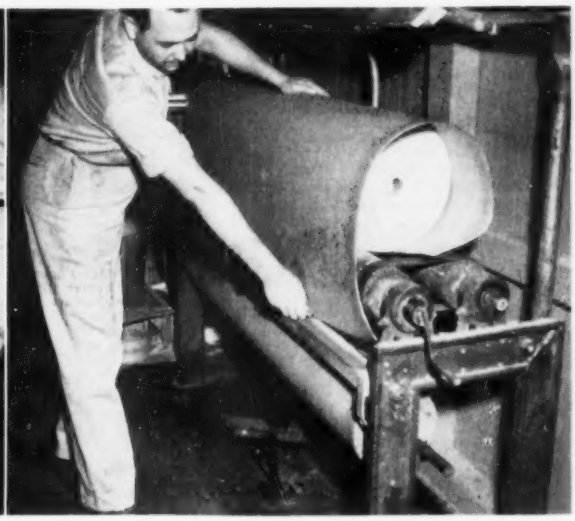


wrapping paper from a roll in retail stores.

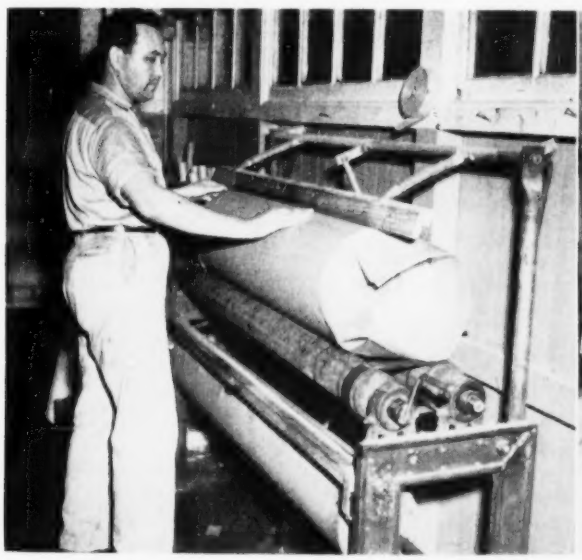
Mounted above the frame is a device used to smooth and tighten the paper after it has been wrapped around the cloth. Its construction is shown most clearly in photo 3 on this page, where it is shown in a down position. This wooden straightener is actuated by a foot pedal, and it is pulled back to its up position by a pair of springs. There is also a spring between the foot pedal and the rod which moves the straightener down.

How the "Gizmo" operates

(1) In wrapping cloth on the "Gizmo," the roll is placed on top of the two metal rollers. Heavy paper is pulled off its roll through the cutting guide, as shown above.



(2) The crank on the metal roller is turned, and the heavy paper is guided up and around the roll of cloth. Then, using the guide, the operator cuts the paper with a sharp knife.



(3) To make a tight wrap, the straightener is brought down by stepping on the foot pedal, as demonstrated by Alvin Hunter, cloth room supervisor, and the roll is turned through a full revolution with the straightener pressing against it. Gummed paper is used to seal the seam and the folded ends, the straightener holding the seam while the gummed paper is applied.

(4) Here is a hand truck loaded with rolls of cloth neatly wrapped by the "Gizmo." The cloth can be wrapped as tightly as desired, but it has been found that too tight a wrap will split in transit, so wrapping is left a little slack. Note the ends sealed with gummed paper. Identification tags are also fastened to the end of the rolls as shown.

Improved Methods for Processing

Data on effect of twist, denier, and yarn number on dynel-yarn properties also given.

By P. C. KOCHHAR
Processing Laboratory Manager
Department of Textile Research
School of Textiles
North Carolina State College

EXCLUSIVE

A RECENT study of dynel processing made in the Department of Textile Research, School of Textiles, North Carolina State College, produced improved cotton-system processing methods. In addition, information was produced for the first time on the effect of twist on strength, effect of denier on strength, and effect of yarn number on strength of various dynel yarns spun from fibers of various deniers and lengths.

The accompanying chart gives full recommendations on processing equipment, speeds, and settings recommended for the fibers studied. These recommendations have been used successfully by several southern mills.

Fibers used in the study were 1.5-den., 1½ in. (Lot 213-22-23); 2-den., 1⅜ in. (Lot 198 B); and 3-den., 1½ in. (Lot 250G) dynel. Yarns produced from each denier and length covered the range of 10/1, 20/1, 30/1, 40/1, and 50/1, with twist multipliers ranging from 2.25 to 8 in each instance.

The following cotton-system procedure was employed in the manufacture of each yarn:

(1) Raw stock was picked through a breaker and a finisher picker into a 14-oz lap.

(2) Laps were carded on a revolving-flat-top card and 60-grain sliver produced.

(3) Card sliver was drawn twice on a 4-roll drawing frame into 50-grain sliver.

(4) Rovings of 2, 3, 4, and 6 hk

Speeds and Settings for Processing Dynel

(Cotton system, 1.5-, 2-, and 3-den. staple, 1-3/8 and 1-1/2 in.)

Picking

	Whitin breaker picker	Saco-Lowell finisher picker
Type picker used		
Type beater	3-blade	Kirschner
No. of beaters	One	One
Beater speed	906 rpm	925 rpm
Fan speed	1,200 rpm	1,160 rpm
Beater settings—in.:		
a. Feed rolls to blade	3/8	3/4
b. Cut-off to blade	1/8	3/16
Blows per inch	51	55
Diameter of beater—in.	18	16
Production lb/hr	252	263
Blows per lb (14-oz lap)	576	637

Carding

Type card used	Saco-Lowell revolving-flat-top card	Front plate to cylinder-in.	
		Top	0.022
		Bottom	0.029
		Cylinder diameter-in.	50
		Cylinder to screen-in.	
Licker-in to cylinder-in.	0.007"	Back	0.029
Licker-in diameter-in.	9	Front	0.187
Licker-in rpm	250 to 260	Center	0.068
Licker-in to screen (solid) in.		Cylinder-wire size	100s
Front	0.029	Flat wire size	110s
Bars	0.17	Doffer diameter-in.	27
Nose	0.187	Doffer speed, rpm	6
Feed plate to licker-in-in.	0.017	Doffer to cylinder-in.	0.005
Mote knives to licker-in-in.		Doffer to comb-in.	0.010
Bottom	0.012	Calender-roll pressure	Self weighted
Top	0.017	Calender-roll trumpet size-in.	0.25
Licker-in clothing	Rayon type	Grain sliver delivered	65
Cylinder to flats-in.	0.015	Fancy roll speed, rpm	1565
Cylinder speed, rpm	165	Fancy roll setting-in.	1-1/4
Back knife plate to cylinder-in.		Coiler head trumpet size-in.	3/16
Top	0.029	Flat-stripping comb-in.	0.012
Bottom	0.029	Angle of mote knives	15

Drawing

Type of frame	Whitin 4-roll		
Settings	Front to 2nd	2nd to 3rd	3rd to Back
	S + 1/8"	S + 3/8"	S + 4/8"
Front-roll speed	280 rpm		
Roll size	Front	2nd 3rd	Back
	1-1/4"	1" 1-1/8"	1-1/8"
Type rolls:			
Top	Synthetic top rolls type J490		
Bottom	Fluted		
Trumpet size-in.	5/32		
Intermediate Drafts:			
(1) Back roll to third roll	1.35		
(2) Third roll to second roll	1.76		
(3) Front roll to second roll	2.50		
(4) Tension draft (web)	1.02		

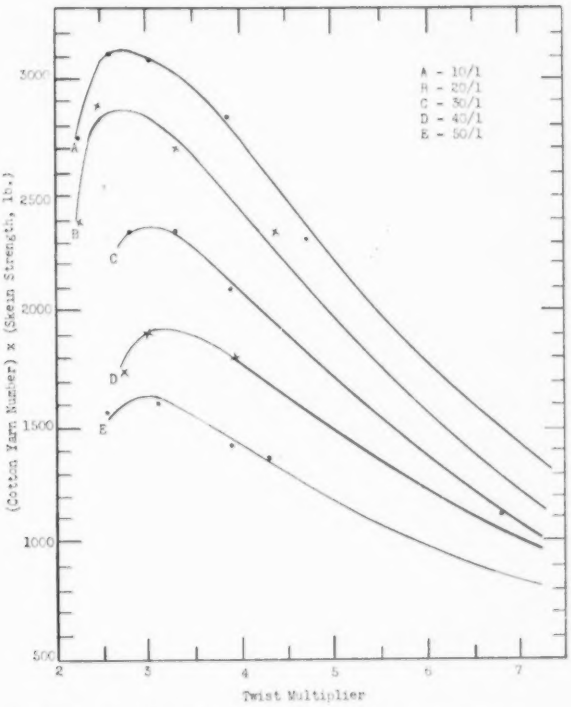
Roving

Type frame	Whitin "C" Superdraft	
Settings	Front to 2nd	3rd to Back
	S + 7/16"	S + 3/8"
T. M.	1.05 to 1.08	
Type of top rolls:		
Front: Climax ball bearing synthetic		
Second: Apron —		
Third: Synthetic — solid		
Back: Synthetic — solid		

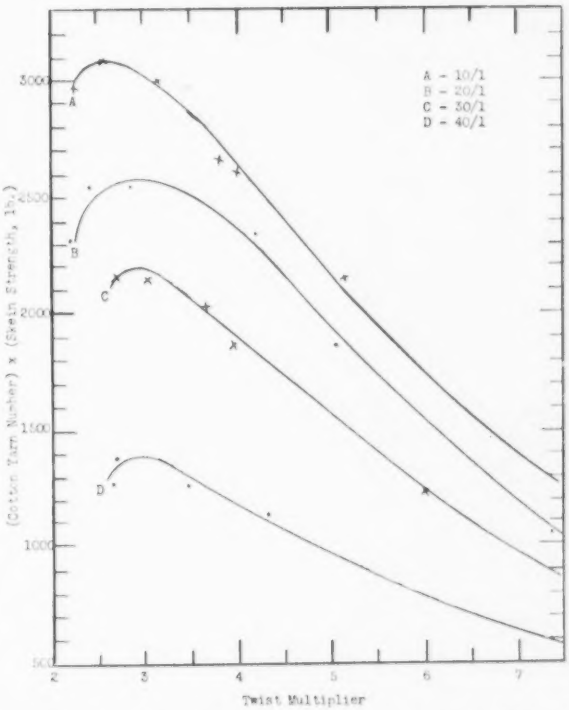
Spinning

Type frame	Whitin long draft	
Roll system	Casablancas	
Size of front roll	1"	
Setting-in.	Front to 2nd	2nd to 3rd
	1-15/16	1-7/8
Spindle speed	7560 rpm	
Diameter of ring-in.	1-3/4	
Separators used	yes	
Gauge-in.	3-1/2	

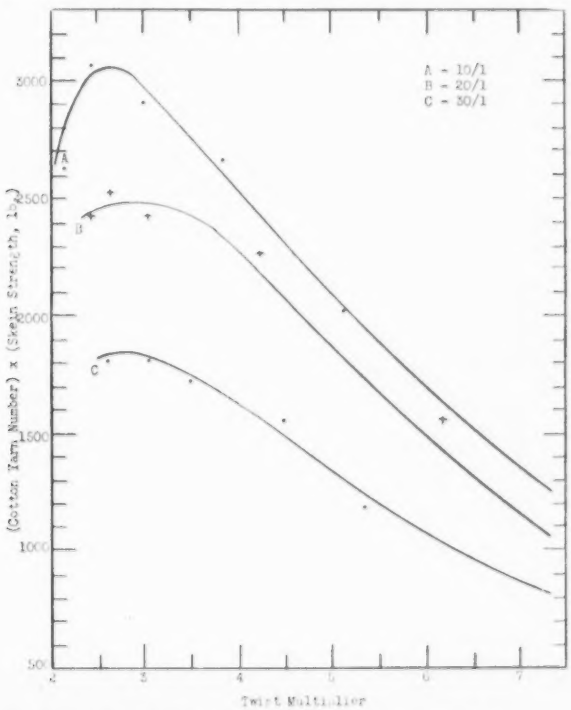
Dynel on Cotton-Type Machinery



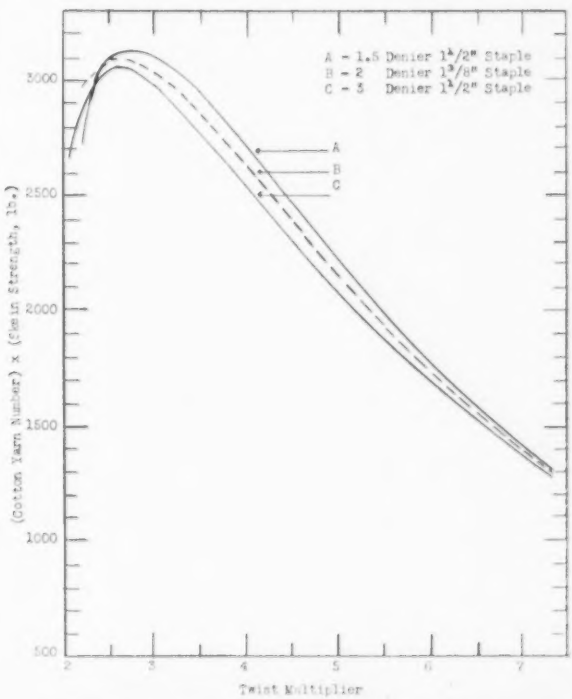
EFFECT OF TWIST on the count-strength product of yarns of 1.5-den., 1½ in. staple dynel.



EFFECT OF TWIST on the count-strength product of yarns of 2-den., 1⅜ in. staple dynel.



EFFECT OF TWIST on the count-strength product of yarns of 3-den., 1½ in. staple dynel.



EFFECT OF TWIST on the count-strength product of 10/1 yarns of dynel staple.

TRI Elects Officers and Trustees

New officers and trustees of the Textile Research Institute, announced at the 23rd annual meeting of the organization in New York, were: president, Percival S. Howe, Jr., president, The American Thread Company; vice-president and chairman of the executive committee, Julius B. Goldberg, research director, J. P. Stevens & Co., Inc.; treasurer, Dr. Donald H. Powers, director, Hudnut Research, Warner-Hudnut, Inc.; and secretary, Paul C. Alford, Jr., Textile Research Institute.

Also, the following trustees: Dr. Earl E. Berkley, director, ACCO Fiber & Spinning Laboratory, Anderson, Clayton & Co.; Harold J. Walters, president, Bachmann - Uxbridge Worsted Corp.; and Richard D. Wells, director of research, Bates Manufacturing Company.

Retiring members of the board are: Andre Blumenthal, vice-president, Sidney Blumenthal & Co., Inc.; Ephraim Freedman, Bureau of Standards, R. H. Macy & Co.; and W. Bailey Sellars, director of research and development, Burlington Mills Corporation.

Distressed Mills May Negotiate for Military Contracts

"Distressed Mills" will, according to a recent announcement by the Munitions Board, be allowed to negotiate for military textile contracts at the highest accepted bid price. Multiple awards on textile items by the Armed Services Textile and Apparel Procurement Agency (ASTAPA) are reported to be subject to this ruling. The agency must recognize directives compelling it to give certain preferences to small defense plants and distressed mills.

For small defense plants, a portion of the original requirement may be held after a joint determination by the ASTAPA and an SDPA representative. Distressed mills—those operating less than 80 hours weekly—can be given preference either by a set-aside made in conjunction with formal advertising or by negotiation, allowing them to meet lowest offered prices of mills operating under normal conditions. The set-aside plant, as revised recently, will allow ASTAPA to negotiate with distressed plants within the entire range of awards to normally operating mills.

were produced on a Whitin Superdraft roving frame.

(5) Yarns were spun on a Whitin long-draft spinning frame—10/1 from 2-hk roving, 20/1 and 30/1 from 3-hk roving, 40/1 from 4-hk roving, and 50/1 from 6-hk roving.

Effects of Twist on Strength. After yarns were spun following the methods recommended here, extensive tests were conducted to show the effect of twist, denier, and yarn number on the count-strength product of each of the yarns produced from each denier and length used. The results of these tests are shown in the accompanying charts [p 91 and 93].

There is one reservation to be noted in the results shown for yarns spun from the 3-den. staple fiber. The count-strength product values of yarns used for these charts spun from 3-den. 1½ in. staple dynel represent only the values obtained by the use of experimental lot 250G. Yarns spun from this somewhat different fiber gave count-strength product values which were higher than usually obtained with 3-den. 1½ in. staple dynel. For example, 20/1 yarn spun from lot 250G with 3.5 twist multiplier gave a count-strength product of 2420, whereas the count-strength product values of 20/1 yarns with 3.5 twist multipliers spun from test lots of regular dynel have averaged slightly under 2000.

In summary, the following significant conclusions can be drawn from the tests and the charts:

(1) A twist multiplier of 2.6 gave the best count-strength product, 3100, for 10/1 yarn spun from 1.5-den., 1½ in. staple. Further insertion of twist produces a steep decline in the count-strength product. Curves for 20/1, 30/1, 40/1, and 50/1 yarns show a similar effect.

(2) It is observed from the curves of the five different yarns made from the same stock that the twist multipliers, to give the optimum strength of yarn, increase as the number of the yarn spun is increased.

(3) The effect of twist on the count-strength product of yarns spun from different deniers and staple lengths is similar.

(4) Denier has little effect on the count-strength product of 10/1 yarns.

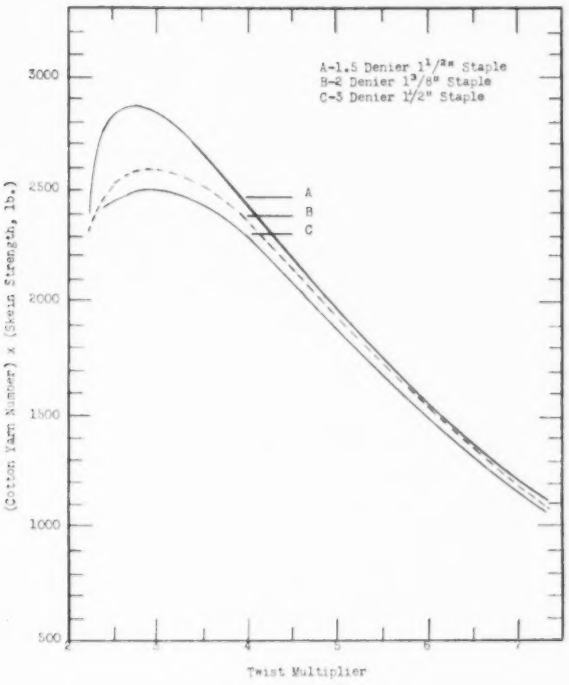
(5) There is a considerable difference in the optimum values of count-strength product of 20/1 yarns spun from 1.5-den. and 2-den. dynel staple; whereas the difference in the optimum values for the 2-den. and 3-den. staple is not great. At high twist, the denier has little effect on the count-strength product.

(6) There is a considerable difference in the optimum value of count-strength product of 30/1 yarns spun from 1.5-, 2-, and 3-den. dynel staple; whereas an addition of twist in the yarns reduces the difference.

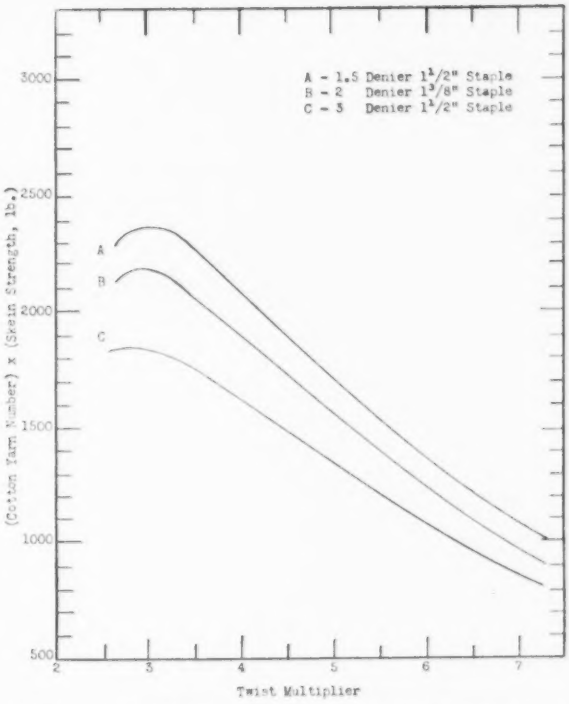
(7) There is a great difference in the optimum count-strength values of 40/1 yarns spun from 1.5- and 2-denier dynel staple. This difference persists for all higher twists.

(8) The effect of 1.5-, 2-, and 3-den. staple on the count-strength product of 10/1 yarns is negligible, but when finer yarns are spun from different deniers, the count-strength product decreases as the denier increases.

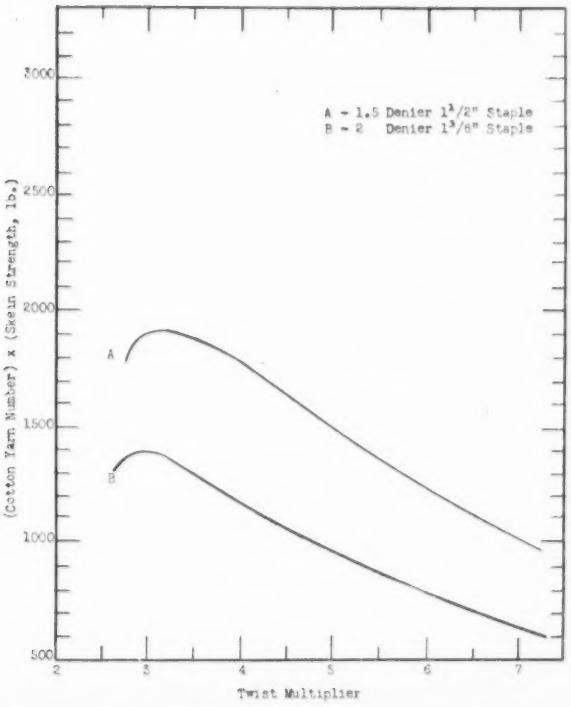
(9) Count-strength product decreases with the increase in yarn number; furthermore, this reduction increases also with the denier.



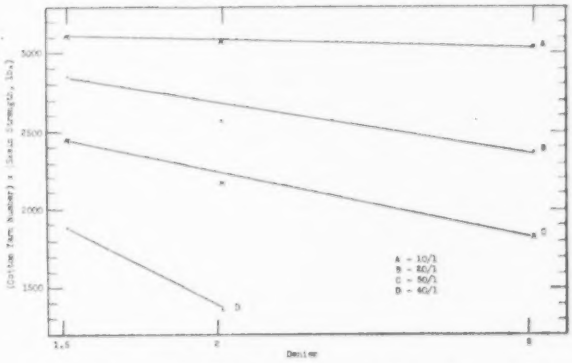
EFFECT OF TWIST on the count-strength product of 20/1 yarns of dynel staple.


A - 1.5 Denier 1 1/2" Staple
B - 2 Denier 1 3/8" Staple
C - 3 Denier 1 1/2" Staple
A
B
C
(Cotton Yarn Number) x (Skein Strength, lb.)
Twist Multiplier

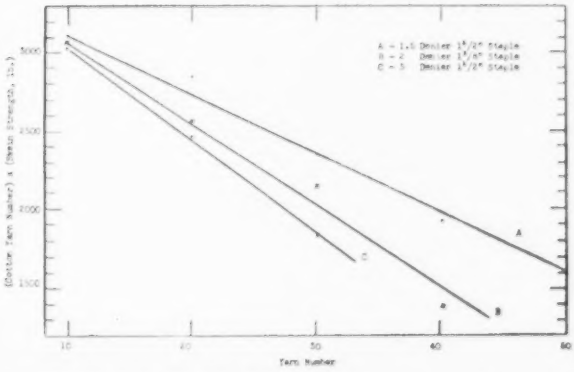
EFFECT OF TWIST on the count-strength product of 30/1 yarns of dynel staple.



EFFECT OF TWIST on the count-strength product of 40/1 yarns of dynel staple.



EFFECT OF DENIER on the count-strength product of dynel staple yarns at optimum twist.



EFFECT OF YARN NUMBER on the count-strength product of dynel staple yarns at optimum twist.

Why Cottons Behave Differently

The sixth article of a series dealing with research work and the practical application of research findings in the mill.

EXCLUSIVE

MANY problems in the textile industry would be better understood if more were known about the history of the cotton. This history of the cotton may only need be the amount of rainfall during boll formation, or something about the planting and harvesting date. Early frost in an area may mean immature cotton. A knowledge of the things that affect the development and character of cotton is helpful in anticipating how cotton may perform in the mill.

By LYLE E. HESSLER
Cotton Research,
*Texas Technological College**

COTTONS behave differently when grown under different environmental conditions. If the fiber is developed under great stress for water (drought), it may be thin walled, show lack of maturity and character. When processed, this type of cotton may be wasty for several reasons.

In underdeveloped cotton, the amount of primary wall to secondary wall may be high, whereas in a fully matured cotton the primary wall is hardly a measurable quantity. The primary wall is composed of less developed cellulose, along with other organic constituents which on drying become brittle, and through the hard working of cotton processing machinery shatter, producing waste.

Stress for moisture may also mean shorter, finer, and stronger cotton.

Rank growth, which comes from too much water, also may influence the kind of cotton produced. Generally cotton grown under high moisture is longer and weaker, while other properties seem to vary.

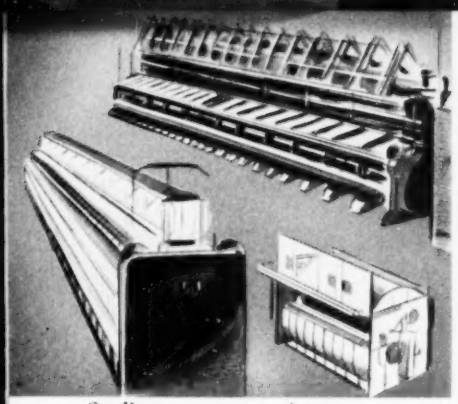
An example of fiber development as influenced by cotton date of blooming is shown in the accompanying table. In this experiment the blossoms were tagged at weekly intervals and, since boll development period is fairly constant from flowering to opening, the bolls opened and were harvested at weekly intervals. Therefore, the data on fiber properties show the development of the fiber over an eight-week period at intervals of one week.

From this information, it was possible to determine at what stage in the production cycle of the plant the best cotton was produced. Indications are that after the first month of fiber development under these conditions, a noticeable drop in the physical properties of the fiber took place. The data show quite conclusively why cotton from the first picking has the best properties, with a falling off of fiber character as the production period develops.

Cotton left too long in the field begins to degrade through oxidation. This degradation is readily measured by the cellulose nitrate viscosity method which does not sever the original chain length at the point of oxidation as do the alkaline reagent methods. However, a mild kier boil will break the cellulose chain at the point of oxidation and when followed by a viscosity determination will show the extent of oxidation in the field.

Damage to the cellulose chain by sun light and other sources may be sufficient to actually show reduced chain length without alka-

* Fiber and Textile Laboratory of The Cotton Research Committee of Texas.



Studies Assays

line boil[1]. This was demonstrated by taking cotton from the boll that was about to open and finding the unexposed cellulose degree of polymerization, then making a determination after exposure to sun light. Thus, the extent of actual cellulose break down can never be known on cotton without its production history.

Since the effect of oxidation may not show up in tensile strength, the question may be asked, "Why worry?" The answer is that after finishing with alkaline reagent and later washing, the fabric eventually will show the effect of weather and oxidation degradation sooner, and the serious effects of wear and abrasion will be hastened materially.

Of course, the converse of weathering in the field is picking cotton too soon and baling it green to produce another form of degradation, produced by decay through micro-organisms. This form of degradation can be very severe and will leave the cotton so weakened that little use can be made of it. Micro-organism degradation may also set in when cotton is left in the field under conditions of excessive moisture.

Since climatic condition can often affect fineness and wall thickness, some information on growth may avoid many pitfalls in dyeing. A well matured cotton is high in cellulose and low in the extraneous materials which can give dye troubles. A cellulose determination may give the answer to this type of difficulty. Normal cotton will run as high as 98 per cent cellulose, which leaves very little in the way of constituents other than cellulose to interfere with mechanical processing operations, finishing, and dyeing.

The pronounced effect of fineness and wall thickness in dyeing shows the need for a knowledge of cotton character. The optical effects obtained by dyeing fine and coarse fibers have been known for sometime[2], and even though the two cottons will adsorb equal weights of dye for the same weight of fiber, the coarser fibers will appear darker. Thus, in a comparison of two dyed fibers, the finer ones will always appear lighter.

This optical effect depends on the fact that a beam of light entering the fibers and returning to the eye by reflection from the inner surface has to travel a shorter distance in thin walled or fine fibers than in thick walled or coarse fibers. According to Armfield and Boulton[3] the phenomenon can be expressed by $\frac{Cf}{Cc} = \frac{Dc}{Df}$ when Cf and Cc are the amounts of dye found to give equivalent optical depths in fine and coarse fibers, respectively, and Df and Dc are the mean diameters of these fibers.

Thus, if the ratio of diameter of the coarse to the fine fibers is, let us say, $\frac{1.5}{1}$, which could very well be, the amount of dye to give equal concentrations in the fine and coarse fibers would require 1.5 times more dye for the fine fibers. Also the fine fibers have much more surface per unit weight or a larger water cellulose interface.

Often, the interfacial area can be in the ratio of 2 to 1 and the fine fibers will come out of the dye bath with less dye per unit area and of a much lighter shade. Many commercial textile laboratories have become aware of this difference in dyeing, due to fiber texture and make it a practice to segregate cottons into fine and coarse fiber classifications prior to dyeing. As a further safeguard, they make it a practice to run differential dye tests on borderline cotton samples where the dyeing may be in doubt.

Since the fine cotton may have a larger surface or reactivity area, the chances of greater oxidation in the field are increased. This reactivity may very well be an important factor in dyeing. Some dyes will no doubt act faster, depending on the polar groups of the dye molecule.

Also in the preparation of cotton for dyeing the behavior of the fiber may be different, depending on various forms of degradation. Therefore, there are innumerable reasons why some dyeing differences may be found between various types of cotton.

The solution seems to be a better understanding of the dyeing procedure and as far as possible avoid blending a fine and a coarse cotton.

Many problems in dyeing are overcome on a new synthetic fiber where structural and reactivity problems are of known importance. Consequently, it is not logical to condemn a superior cotton, largely through a lack of understanding in how to best finish it.

Information on variety may not always be reliable, nor is variety a governing factor when environ-

Effect of Cotton Date of Blooming on Fiber Properties

Blooming Date	Fiber Strength 1000 lbs. per square inch	Upper Half Mean Length (Inches)	Fineness (Micrograms per inch)	Light Reflectance	Maturity (Per cent)
8/4	78.1	.88	3.6	64	61
8/11	81.4	.81	3.0	64	61
8/18	74.1	.80	3.5	55	67
8/25	79.5	.82	3.8	63	64
9/1	79.5	.86	3.3	47	56
9/8	77.8	.72	Below Range	25	15
9/22	72.2	.62	Below Range	16	24

Hosiery Imports on Decline

Figures recently released by the National Association of Hosiery Manufacturers indicate that imported hosiery is losing out in the American market. Data for August, the latest month for which figures are available, indicate a reduction in imports amounting to 17.4% against August 1951. The almost complete dominance of American manufacturers in the domestic market is believed to be based on superior quality and value in all fields, since the item enjoys no adequate tariff protection.

During the comparable period, export sales of hosiery also showed a decline of about 15% but against this loss, which amounted to 87,000 dozen pairs, the trade totaled up an increased domestic sale amounting to 1,542,000 dozen pairs.

Difficulties in increasing the export of hosiery are ascribed to two factors: (1) the trade restriction imposed by most foreign countries, and (2) the fact that American interests have worked actively to restore the manufacturing capacity of those countries through the sale of knitting machinery and the training of personnel.

Bleaching Acetate and Nylon Fabrics with Peracetic Acid

The use of Peracetic Acid 40% as a textile bleaching agent is of particular interest to mills handling acetate rayon or nylon as such or in mixtures with cotton or viscose rayon, according to information contained in Buffalo Electro-Chemical Company's Bulletin No. 44 recently published. Superior whites are obtained, the bulletin states, and chemical modification (saponification) of acetate rayon is avoided.

General Recommendations. Bleaching with peracetic acid may be carried out in jigs, dye becks, slack type washers, padders or rotary type machines made of either stainless steel or wood.

Clean water and clean steam are required. Baths may be heated by steam coils or with direct steam.

Adequate ventilating facilities should be provided to prevent objectionable odor accumulation in the bleach house.

Scouring of goods prior to bleaching is generally advantageous. Agents and procedures normally recommended for the particular type of goods are satisfactory in most cases.

Make up bleach bath according to formula for particular fabric to be bleached. Adjust to pH of 6-7 by the addition of caustic soda, the quantity of caustic depending on the peracetic acid concentration in the bleach bath.

Bleaching may be conducted hot or cold. Hot method is recommended for attainment of maximum white. Cold bleaching is attractive for specific fabrics where minimum tie-up of processing equipment is desired.

Detailed procedures and formulas developed by Becco and used in mill operations for bleaching the following are given in the bulletin:

(1) Jig bleaching of acetate rayon-cotton satin;

(2) Bleaching of acetate rayon-cotton collar interlining;

(3) Jig bleaching of 100% acetate rayon;

(4) Cold bleaching of 100% acetate rayon or nylon fabrics;

(5) Jig bleaching of 100% nylon fabric (two methods);

(6) Bleaching of 100% nylon knit goods.

ments are extremely different. For this reason more attention should be given to fiber properties when choosing a cotton for a definite end use. In spite of all known precautions to get an even running lot of cotton, something of an unknown factor may enter into the processing and spinning which will upset yarn specifications.

These unknown factors, which are those not easily or commonly measured, may be fiber friction or drag, fiber bending or flexibility, and extensibility. To fully understand these properties, an understanding of fiber structure is necessary, which at the present is not available for practical laboratory determinations.

Information on the size of the crystallites, the amount of crystalline and amorphous cellulose, length of the cellulose molecule, and spiral structure are factors in interpreting why fibers behave differently, which do not lend themselves to the type of analysis readily available for understanding fiber behavior.

Some varieties and some locations produce cottons with a large spiral angle. Also, if the laws of crystallization hold, areas which produce fast drying when the bolls open may produce smaller crystallites and therefore, more flexible fiber. Flexibility brought about by spiral structure and small crystallites are important in weaving and may be of considerable value in mill operations where strength of yarn is not an important factor.

These physical properties may never find practical application in mill practice, but if the history and past experience with the cotton shows it to have a certain property useful in the processing operations, more attention should be given to factors which produce the desirable results.

More and more cotton mills are considering factors which make the mill run trouble-free one week and bad the next. As an aid to even running operations, the selection of cotton of known history and past performance can be highly important.

Acknowledgement. Samples of cotton on "Blooming Date" were furnished by Don Jones, Texas Agriculture Experiment Station, Lubbock, Texas.

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(1) Hessler, L. E., Merola, G. V., and Berkley, E. E. Textile Research Journal, 18 628 (1948)
(2) Frothergill, R. E. J. Soc. Dyers and Colourists 61 113 (1945)
(3) Armfield, W. and Boulton, J. Textile Research Journal 19 212 (1949)

MEN WHO PLANNED AND RAN THE MEETING are shown in the left photo above. Left to right, back row: Dean J. H. Lampe, Dean of Engineering, N. C. State College; J. T. Meador, Southern Electric Service Co.; C. G. Brennecke, Head, Electrical Engineering Dept., N. C. State College; W. D. Stevenson, Professor of Electrical Engineering, N. C. State College; W. W. Hammond, The Okonite Co.; S. Cowan of Factory Insurance Assn., chairman, AIEE Textile Subcommittee, and J. Dan McConnell of Cone Mills Corp., secretary of AIEE Textile Subcommittee. In the photo at the right a group of conferees examines a new time-delay punchbutton station being demonstrated by G-E Textile Application Engineer R. E. Parker (left).

Electrical Equipment Conference

Staff Report

- ► **When to clean transformers and recondition oil**
- ► **Experience with pressure relieving fittings**
- ► **Lubricants used for high temperature bearings**
- ► **Preventive maintenance schedule for motors**
- ► **Loom improvements reduce power requirements**
- ► **Drives for opening, carding, slashing, weaving**
- ► **Operating capabilities of a-c motors (NEMA)**
- ► **Long acceleration for roving-spinning startups**
- ► **Relative costs of roving-spinning starting methods**
- ► **Recurring electrical troubles and remedies at Cannon**

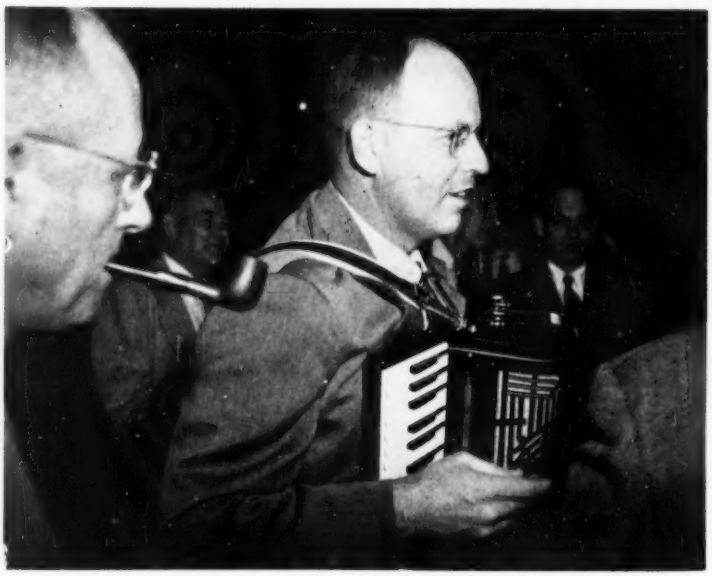
TEXTILE MILL electrical engineers and maintenance men, from Greenville to Greensboro in the Piedmont-Carolinas met in Raleigh, at North Carolina State College, on November 6 and 7, for a Conference on Electrical Equipment for The Textile Industry. Approximately 165 men registered for the two-day conference, which was sponsored by the National Sub-Committee on Textiles, of the American Institute of Electrical Engineers.

Meetings of this nature have been held for the past several years at Georgia Institute of Technology, in Atlanta, but this was the first meeting held in the Carolinas area. Plans have been made, however, to make this conference an annual event.

The first session of the conference was devoted to papers on electric motors and their application to textile drives. The second session included a paper on elevator control and maintenance and one on electrical problems and their remedies. These were followed by a discussion in which questions were asked from the floor and answers were given by

a panel of seven textile electrical equipment experts.

Panel Discussion. Sitting on the panel of experts were: J. H. Bartholomew, Monarch Elevator Co.; R. G. Fowler, Cannon Mills Co.; W. T. Beeton, Electrical Equipment Co.; Harold Saline, Electric Motor and Repair Co.; Harry Taylor, Southern Electric Service Co.; Fred Snyder, Westinghouse Electric Co.; and J. R. Adamson, General Electric Co. As soon as Dan McConnell, Cone Mills Corp., opened the discussion period, questions came in rapid succession from the audience.



DAN McCONNELL entertained the group at the barbecue.

Transformer Oil. The first question presented to the group concerned the reconditioning of transformer oil. What methods are best, the questioner wanted to know, to clean transformers and recondition the oil when the transformers are on full time duty, year in and year out?

In answer to this question it was suggested that the oil be reconditioned while the transformers are in service by filtering the oil through paper filters to clean out the sludge and through activated alumina to remove acid. There is also an earth-type filter available to remove both sludge and acid in one filtering. Although this will recondition the oil, it does not clean the sludge from the transformer itself and is not as satisfactory as taking the equipment out of service and flushing the transformer to clean it before refilling with oil. It was also stated that it is possible to recondition oil with activated alumina two or three times, but afterward new oil will have to be used.

This brought up a discussion of the effect of acid on the oil in the transformer. It was stated that acid reduces the dielectric of the oil and also attacks the metal and the insulation in the transformer. A safe limit for acidity is about .3-.5%.

Ball Bearings. The next question concerned the greasing of ball bearings on electric motors. This first turned on the question of the advantages and disadvantages of pressure relieving fittings on bearings. Such fittings are designed to prevent packing of too much grease in anti-friction bearings.

While several of the mills represented had successfully used pressure relieving fittings, most reported that there was a tendency for these fittings to clog with old grease and no longer do the job for which they were designed. Generally speaking, better results were had by using the top and bottom plug method in which both plugs are removed when the bearing is greased, any excess grease running out of the bottom plug as the motor is run for from ten minutes to half an hour with that plug open.

Here, it was pointed out that not infrequently the employee lubricating the bearings forgets to put the plugs back in. Even this, however, is not too serious if the proper grease for the job is used, for if the grease does not separate, it will stay in the bearing even with the bottom plug out.

Fred Snyder of Westinghouse pointed out that most mills had excellent results with the permanently sealed bearings available on his company's motors. These bearings are lubricated at the factory and sealed so that they never need relubrication. When this type of bearing is used, there is no danger of burning up the bearing with too much grease; and grit and dirt, which may get in bearings requiring lubrication, are completely sealed out.

Many mill representatives reported success with this type of sealed bearing, but it was emphasized that these bearings are available with two different types of lubricant, standard and high temperature, and the right type should be selected for each job or bearing trouble will be frequent.

A specific bearing problem presented to the group concerned the continual failure, in one mill, of the inboard bearing of a motor shaft driving a Proctor & Schwartz dryer. The ambient temperature at this bearing is about 360 F, and despite all efforts of the maintenance crew, the bearing failed frequently.

Several other mill representatives had experienced this same trouble, and all had solved the problem to their satisfaction. One had changed successfully from grease to oil lubrication for that bearing, while another had found a grease manufactured by Gulf Oil Corp., called Alvania 2, which successfully lubricated the bearing. Another had found a special Shell grease which worked well. It was also suggested that a heat slinger between the dryer and the bearing might do the job.

Motor Maintenance. Is it wise,

one man asked, to tear down and recondition all motors every five or six years on a regular preventive maintenance schedule?

There was some disagreement on this, but it was generally felt that it was not economically feasible to use such a schedule. It was suggested that a few motors be reconditioned and their condition observed on a regular schedule, and then determine whether all motors should be reconditioned on the basis of the condition of the samples. Also, if accurate records of motor maintenance are kept, it will soon be possible to determine a reconditioning schedule that makes sense.

Loom Power Requirements. Just before the close of the discussion period, one mill man asked why motor manufacturers did not try to build a motor which would operate more efficiently in textile applications such as looms where there are so many motors used that just a slight increase in motor efficiency would save large amounts of money. In answer to this, Fred Snyder pointed out that almost every loom would require a special motor if the manufacturer were to try to apply the particular motor characteristics theoretically suited to the job. It is necessary to compromise and adopt as standard the motor which comes closest to being right for the whole weave room.

In connection with this, Victor Sepavich, of Crompton & Knowles, told how he was working on the reduction of load requirements for looms by improving the loom rather than the drive. The most perfect electric motor would only be a very little more efficient than the motors in use today, while very great load reductions can be had by redesign of looms, he said.

He gave as an example the fact that his company had found that the use of an aluminum lay could reduce the power requirements of a loom by as much as a third. The only trouble is the high first cost of a lay made of aluminum. Also, he had found that much better operation could be had by adding a flywheel effect to the loom drive. Experiments on this are now being carried out, and Mr. Sepavich hopes to report on more results at the Textile Division, American Society of Mechanical Engineers meeting in New York.

Drive Requirements of Some Textile Machinery

By I. S. BULL, JR.
J. P. Stevens & Co., Inc.
Greenville, S. C.

Abstract

SINCE WORLD WAR II, the textile industry has been advancing technically at a much more rapid pace than before. Processes are being improved, and the phenomenal development of synthetics has imposed new requirements. Also, increasing cost of labor and increasing competition from abroad have justified development of more efficient processes. We need to increase the productivity of machinery and operatives to maintain leadership of the world's textile industry.

In the past constant speed drives were considered adequate where now adjustable and variable speed drives are felt to be necessary for both the machine and the employee.

Opening and Picking. Blending of synthetic fibers has brought about more stringent drive requirements. Certain blending feeders use small synchronous motors to increase the accuracy of the weighing mechanisms. On and off controls can be replaced by variable speed devices to improve operation.

Carding. Individual drives for cards are now bringing to an end the era of overhead shafting in the cotton card room. In wool carding, where cards are operated in tandem, wound rotor motors, operating as power selsyns, permit synchronism of card speeds as well as speed variation.

Roving Frames. Gentle starting of roving frames is now being accomplished by the use of reduced voltage starters, fluid clutches, and low starting torque motors. Improvements are needed, however, in shipper rod mechanisms so that it will be possible for the operator to more accurately jog the frames.

Spinning. On woolen spinning frames in particular, gentle starting is needed. Various schemes have been tried with varying success, but the increased use of antifriction bearings makes possible the use of slow starting methods heretofore not feasible. With lengthened acceleration, however, there is a need for more accurate overload relays to carry through the starting period without sacrificing normal motor overload protection.

Quilling. One of the most interesting developments is that of individual, fractional horsepower motors for each spindle of the Abbott automatic quiller. Variable frequency a-c current gives a wide range of winding speeds. A frequency converter supplies the power at 30-50 cycles or 70-90 cycles. At present the converter does not operate in the middle range of 50-70 cycles, and there is a demand for the reduction of this dead range so that the quiller may have the desired flexibility. It is also desirable for the operator to be able to adjust the spindle speed from the machine.

Slashing. The most important requirement of a standard slasher drive is a means for automatically maintaining proper and uniform tension. A number of different types of mechanical, electrical, or combination drives has been used. We want the most economical drive from the standpoints of first cost and cost of operation.

In the special case of slashing

dissimilar warps passing through two size boxes on one slasher, trouble has been encountered on multimotor drives at creep speeds, especially when one of the warps has very few ends and low strength. Similar trouble has also been experienced at the beam take-up. It is felt that for this special slashing more precise electrical equipment, similar to that driving paper-making ranges, is needed. Also, some sort of constant tension let-off device is needed at the section beam creels.

Weaving. The recently developed Diehl power transmitter combines in one unit the loom motor, the clutch, and the brake. A beneficial flywheel effect is obtained, and operators like the smoother and easier operation. It would seem advantageous to equip looms having the power transmitter for push button operation, and it is also suggested that the drive be through a short center V-belt to allow any desired speed change instead of the incremental changes now necessary because of the use of change gears.

Conclusion. We need more information on load characteristics and horsepower requirements as we get further into variable speed drive applications. It is the textile industry's responsibility to work with machinery manufacturers and share development costs for improved drives for textile machinery.

Operating Capabilities of A-C Motors

By F. D. SNYDER
Westinghouse Electric Corp., Boston, Mass.

Abstract

THE ALTERNATING current squirrel cage motor is the basic motor used in the textile industry. It has the lowest first cost per hp, it has the lowest maintenance, and it is usually the most efficient. Therefore, if a machine is to operate at a constant speed, the first thought should be a squirrel cage motor of standard characteristics and a full voltage linestarter.

The National Electrical Manufacturers Association (NEMA) has set up a series of standards for several types of squirrel cage motors. A knowledge of these standards and what they mean in terms of machinery performance is essential in making proper drive selections.

The curve for the NEMA-B shows a starting torque of 175% of full load torque. This means that at the instant that full voltage is applied to the motor, this torque is developed. If this torque is sufficient to start the load, the motor starts to turn and accelerate. The actual torque developed by the motor will vary as the speed increases as shown in the curve. The NEMA-B motor is the common motor that is in stock in most warehouses.

The NEMA-C has a standstill torque somewhat higher than the NEMA-B. The maximum or pull-out torque, however, is somewhat smaller. This motor is intended for applications that require a high break-away torque but have a relatively small amount of inertia to accelerate. There are very few such applications in the textile industry. A heavily loaded, slow moving conveyor belt would be an ideal application.

The NEMA-D motor has many uses which are not fully appreciated. It has a high slip at full load, which means lower efficiency at steady running. But this motor is ideal for applications requiring frequent starting or where heavy inertia loads are to be accelerated. Typical textile applications are feed aprons for pickers, worsted combers, many types of winders, centrifugal extractors, and woolen cards.

Controlled Acceleration. One of the great problems in driving textile machines is to get controlled acceleration. There can be no doubt that the best and smoothest acceleration of any machine being driven by a squirrel cage motor can be made by the tight and loose pulley in the hands of a skilled operator. This tight and loose belt drive has so many disadvantages, however, that it is now very seldom used.

To start a roving frame properly, with a directly connected motor, it would be necessary to build a motor with just exactly the characteristics required for that particular frame. There are, however, so many variables involved from frame to frame and from speed to speed and stock size that the ideal motor characteristics are unattainable in commercial operation.

A partial solution is the two torque value "soft motor." This motor provides two distinct speed torque curves. It has the advantage of using a simple, full voltage starting, magnetic contactor. Either one or the other of the two speed torque curves is available, but never both, without making a change in wiring.

Primary Resistance Starting. It is possible to get any value of speed-torque curve from a squirrel cage motor, lower than its full voltage curve, merely by inserting resistance in the motor leads. A definite time type of resistance starter has been developed for NEMA-B motors. The resistance is set so that the frame accelerates slowly. After several seconds, the resistors are shorted out for normal running. This type of drive has been used for some time, and it has been very successful. It does, however, involve a large and comparatively expensive control.

Part Winding Starting. Recently a new scheme of motor and control has been used for slow acceleration. It is the part-winding starting scheme, where there are two groups of motor coils connected in two parallel stars. With this scheme, an initial connection can be made to get any one of

three different starting and accelerating torques. Under normal conditions this will accelerate the frame slowly and smoothly.

The control with the part-winding motor scheme consists of two contactors. The operator determines when full torque is to be applied. Such operation could easily be obtained from a shipper rod by merely arranging for the rod to assume a neutral position by spring action, and the moving of it one way for starting and the other way for stopping.

With the part-winding scheme, a 5 hp motor can be applied to all roving frames, and the drive will be perfectly satisfactory regardless of how much speed may be changed. The 5 hp motor always has an ample factor of safety as far as load and other conditions are concerned, and this is essential when continuity of service is considered.

Starting of Spinning and Roving Frames

By R. E. PARKER
General Electric Co., Schenectady, N. Y.

Abstract

IN DECIDING ON THE METHOD to be used in starting spinning and roving frames, the proper attitude should be, "How little is good enough." The idea, of course, is to select equipment which will give a long accelerating time so that the frames will get off to a "soft" start.

Before discussing the selection of motors and starting schemes, it will be worthwhile to list some of the reasons which have been suggested to explain why ends break on starting:

(1) tension, (2) shock, (3) backlash, (4) belt slip (cone pulley), (5) speed, and (6) yarn kinks.

While it is possible that all of these may have some part in causing ends down at starting, the last one, yarn kinks, probably is the most serious offender. When a frame is stopped, the yarn goes slack and kinks slightly. On a fast start, the kinks are pulled through the guides or the traveler before they get a chance to straighten. On slow starts, the yarn straightens out properly before it moves toward the package.

Whatever the cause, it is agreed that long acceleration is desirable, and it may be accomplished in any of the following ways:

1. Additional flywheel effect
2. Less motor torque at start
3. More load torque on starting
4. Two-speed starting systems
5. On-off (jog) starting

Of these methods, two-step starting to either reduce motor torque or utilize two-speed motors is the safe way and should be selected for best performance in the general case. It may be accomplished in any of five ways:

1. Resistance starters
2. Partial winding
3. Reactors
4. Autotransformers
5. Two-speed motors

Since the last three of these are more expensive, the selection of a two-step starting scheme for spinning and roving frames should be between the first two.

Jogging, instead of two-step starting, is also practical for starting spinning frames, but care must be exercised to select adequate starters for jogging service.

Cost must be balanced against the merits of the starting scheme selected. The accompanying table gives a relative price picture for the starting means most adaptable to spinning and roving frames.

Relative Cost of Starting Methods

Roving Frames		Spinning Frames	
Standard Motor	1.0	Standard Motor	1.0
Dual Rating Motor	1.2	Jog	1.05
2-step starting	1.8 - 2.0	2-step starting	1.5 - 1.7

Selection for each application is a question of "How little is good enough."

Electrical Problems and their Remedies

By T. O. SILLS
Cannon Mills Co., Kannapolis, N. C.

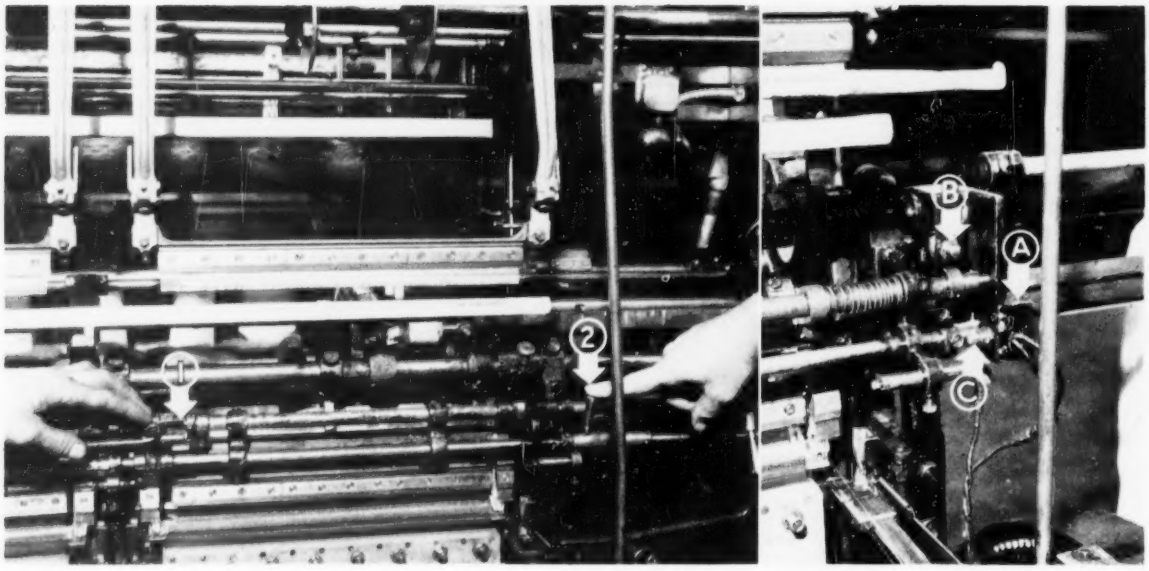
Abstract

WE HAVE FOUND that certain electrical troubles in the textile mill recur frequently, and high on this list is trouble with loose connections. So far as we can tell, most of these faults are directly attributable to human error. In the case of soldered connections, lack of skill is usually the basic trouble. On solderless connections, carelessness can usually be blamed. We have found torque wrenches helpful in making good connections of the latter type.

We have also had recurring trouble resulting from dirty switches and starters. We have tried to overcome this by using definite cleaning and inspection schedules. We have also found that portable vacuum cleaners used in addition to the regular compressed air blowers are help-

(Continued on page 124)

(Mr. Sills was not able to attend the meeting, and his paper was read by R. G. Fowler, Cannon Mills Co.)



WRECK may occur if picot bar is left in position shown with (1) lock off, (2) lock control handle in up position. Right, with picot bar in position shown at left (A) refrigerator door light switch, (B) contact switch to stop bell when bar is in "full up" position, and (C) switch which stops bell when bar is fully locked.

Full-fashioned knitting mills, note—

Two Mill-Made Devices Prevent

Staff Prepared

EXCLUSIVE

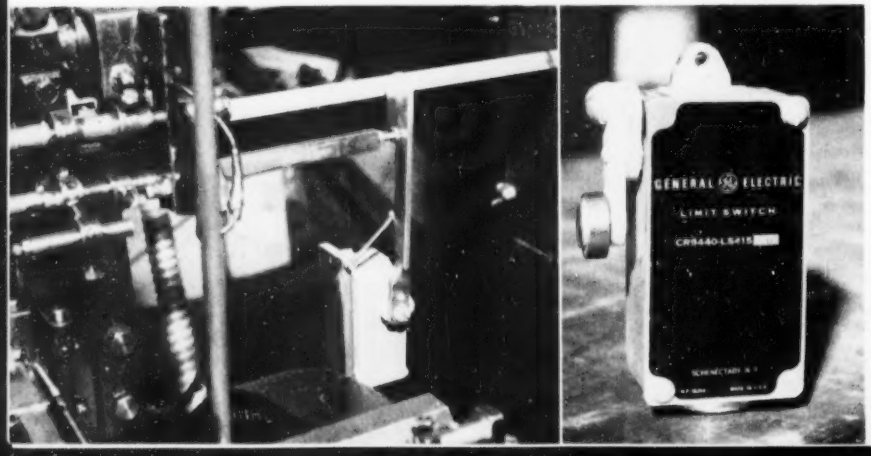
ON 45-GAUGE Lieberknecht machines (older models), the machine may be wrecked if the picot bars are not locked in place after being put into position to operate the machine. To be certain the bars are locked in place, a mechanic at Sunshine Hosiery Mills, Murfreesboro, Tenn., installed an electrical circuit which rings a bell as long as the picot bar is not locked in the down position. If the bar is fully raised, the bell does not ring—another switch in the "full-up" position prevents the bell from ringing.

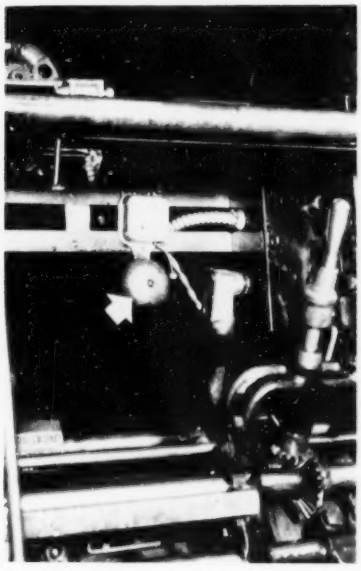
A refrigerator door light switch was used effectively to improvise the signal (see accompanying illustrations), and dry cell batteries provide current to ring the bell.

Prevents Damage When Making Loopless Toe Hose. A limit switch installed on older model Lieberknecht machines prevents trouble in making loopless toe stockings. When the narrowing fingers come close together in the toe portion of the stocking, the machine could be wrecked if something should go wrong and the narrowing fingers converged all the way.

To prevent the fingers from converging while the operator is busy doing something else, a limit switch serves to stop the machine automatically if something should go wrong (see accompanying illustrations). New model machines may come equipped with knock-off switches; however, on older

LIMIT SWITCH installation is simple. Adjustable screw on narrowing rod is in contact with the improvised metal arm attached to the limit switch which stops the machine at a predetermined position of the narrowing fingers. Right, the limit switch used in this instance.





DOOR BELL located near center section of machine sounds alarm if picot bar is in wrong position.

Wrecks

machines already in service, a limit switch may be installed with little trouble.

Flavil Barnes, machine fixer at Sunshine Hosiery Mills, took a GE limit switch and altered the switch by using a small steel plate inside to make the switch operate instantaneously upon contact. A bracket was attached to the machine to hold the limit switch in place, and a long metal arm was provided to serve as a stop for the narrowing rod. An adjustable screw was put on the narrowing rod for the purpose of allowing adjustment. When the narrowing rod moves outward while the narrowing fingers are converging, the adjustable screw is set to contact the stop on the limit switch and stop the machine should anything go wrong.

The switch remains inoperative so long as the machine runs without any trouble. The limit switch serves solely as a safety measure.

Day's Work for Day's Pay

Hammering home the theme of a "day's work for a day's pay" as salvation for New England's tottering textile industry, Harold J. Walters, president, Bachmann-Uxbridge Worsted Corp., told mill men attending the 69th annual meeting of the National Association of Woolen and Worsted Overseers to "sell this story to the workers."

Work loads must be adjusted upwards within the known limits of a man's capacity, Mr. Walters urged. In some instances, the North-South differential for weaving is 31 cents per loom hour. This can be reduced to 6 cents without burdening the weaver, he claimed.

Mr. Walters revealed that Massachusetts' Republican governor-elect has a sympathetic attitude towards that state's textile industry, views with alarm its current status, and will investigate the situation.

69 Rapid Tax Amortization Certificates of Necessity Issued to Industry

A total of 69 rapid tax amortization certificates of necessity covering proposed investments totaling $94,471,000 had been approved for the textile manufacturing industries through September 5, 1952, the Defense Production Administration announced recently. Tax amortization allowed was 40.9% of the proposed investment or $38,654,000. Approval of eight certificates representing a proposed investment of $65,178,000 was pending.

DPA said the granting of certificates is continuing on a more selective basis as the major expansion goals become filled. Private investment under 13,602 certificates of necessity granted since Korea totals over $23 billion. This represents the great bulk of the planned industrial expansion, according to the report.

Only .5 of 1 per cent of the total number of certificates approved, representing only .4 of 1 per cent of the dollar value issued, went to the textile manufacturing industries as follows:

	Number of Certificates	Proposed Investment
Scouring and combing plants	3	$ 417,000
Woolen worsted fabrics	5	5,927,000
Yarn mills	1	1,049,000
Yarn mills, cotton system	4	10,421,000
Yarn mills, silk system	1	5,768,000
Cotton broadwoven fabrics	32	25,290,000
Rayon related broadwoven fabrics	7	44,921,000
Narrow fabrics other small wares mills	1	184,000
Dyeing finishing textiles, except woolen & knit	1	812,000
Artif. coated fabrics except rubberized	4	151,000
Jute, except felt, and linen goods	2	70,000
Cordage and twine	1	23,000
Textile goods, nec.	1	38,000
Total	69	$94,471,000

The accelerated tax write-off program is provided in the Revenue Act of 1950. Prior to passage of this Act, the period permitted for depreciation of new facilities by the Bureau of Internal Revenue varied up to 25 years, depending on the normal life usefulness of the facility. Under the statute, this period may be shortened to five years for such portion of the new investment as DPA may determine.

The percentage authorized for actual amortization depends with other factors on the type of facility, amount of expansion required for the emergency, the probable usefulness of the plant for other than defense purposes after the emergency, and the degree of financial aid deemed necessary to encourage the expansion.

DPA explained that certificates of necessity are granted both for production directly related to defense, and for items closely connected or essential to defense, or the Nation's welfare during an emergency.

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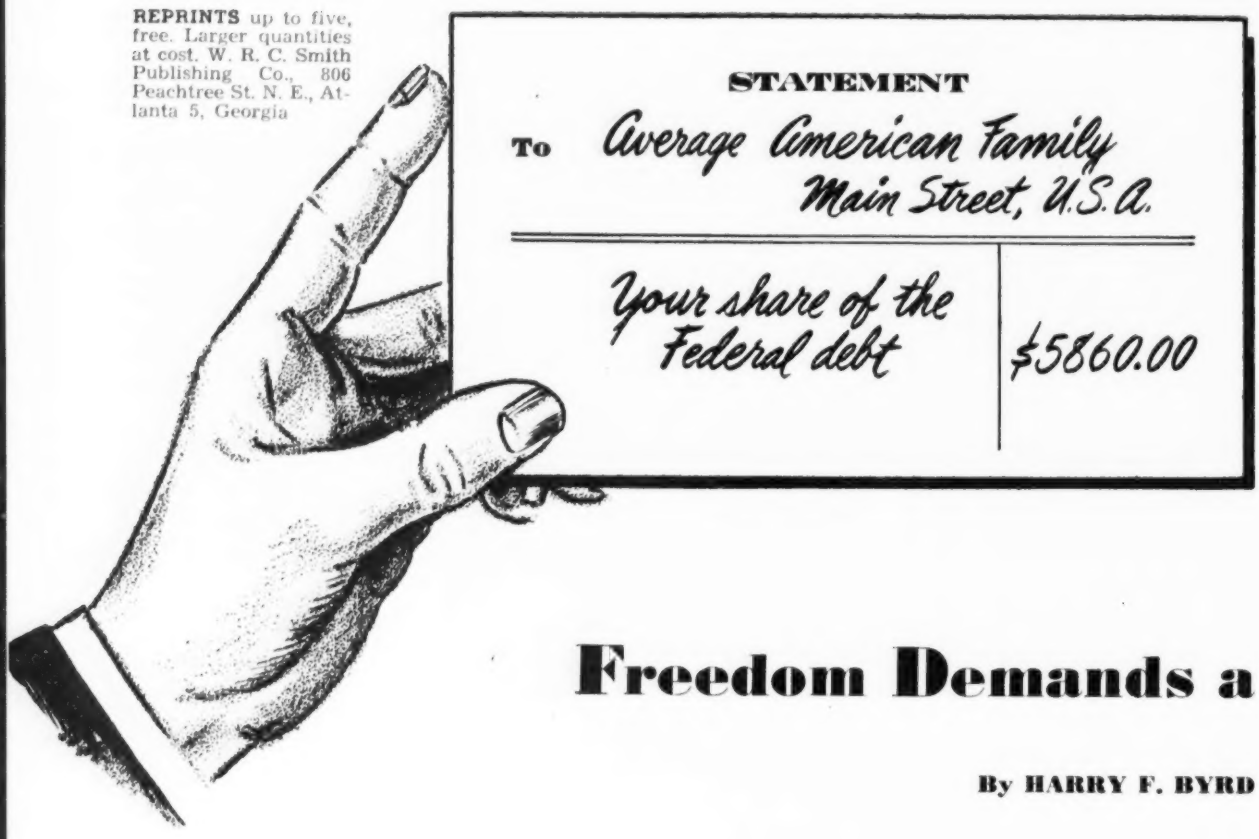


Freedom Demands a

By HARRY F. BYRD

THE FEDERAL Government is spending your money at the rate of about $2,500 every time the clock ticks. That is approximately the amount to be paid in federal taxes this year by a man, with a wife and two children, earning $12,000 a year.

The Federal Government is collecting taxes from you at a rate of more than $2,200 every second of every day and night. The per capita income in this country now is estimated at about $1,700 a year.

The Federal Government is adding to our federal debt, through deficit spending, at the rate of more than $300 a second.

Federal expenditures in this fiscal year which ends next June 30 will total nearly $80 billion. Federal revenue will not exceed $69 billion.

This kind of deficit spending has been going on for a long time. In 21 years the federal budget has been balanced three times. A new generation has reached its majority under federal deficit financing.

In view of these facts one might well ask himself: When does a Democracy become insolvent? In a system such as ours, when and how does national insolvency manifest itself?

There probably will be no milestone to mark the crossroad, but there are some who many conclude that a Democracy is approaching insolvency when:

(1) *We are unable to pay current costs of government over a prolonged period with taxes short of confiscation and diminishing returns; and*

(2) *When the constant cheapening of the dollar is a result of these conditions.*

In our short-of-war status, federal taxes — raised three times in one year — did not meet expenditures last year, and expenditures will exceed revenues by more than ten per cent this year. The dollar is now worth 53 cents.

The best tax experts in the country have testified that taxes are already so oppressive they can not

IN THIS article the nation's long-time leading exponent of governmental economy points to the desperate need of cutting federal spending and balancing the budget. This is No. 2 in a series on problems of business and government, written exclusively for the W. R. C. Smith publications.

SENATOR BYRD has rendered distinguished service to his country as a member of the Senate since 1933. Prior to that time he was governor of Virginia. He is Chairman of the Joint Congressional Committee on Reduction of Nonessential Federal Expenditures.

Solvent America

United States Senator from Virginia

be maintained at present levels for more than a temporary period.

Each new deficit is being piled upon a federal debt already greater than any other nation ever dared create. We went into World War I with a federal debt less than $1 billion; we went into World War II with a federal debt of less than $50 billion. We started this new deficit financing era with a federal debt of more than a quarter of a trillion dollars.

If the integrity of the United States is to be maintained — if we are to remain solvent — we must finance the new debt created by current deficits at the same time we are paying off the old debt obligations which are now coming due. This must be done whether the debt was incurred for war or peace.

With characteristic deception, the Fair Deal economists have been telling us for years that there is nothing wrong with a huge federal debt so long as we owe it to ourselves. But when pay day rolls around we find that we owe it to ourselves in the war bonds we hold, in our bank savings against a rainy day which are invested in the federal debt, in the insurance we bought for the protection of our families which is invested in the federal debt, and in the social security taxes withheld from us against our old age, which are invested in the federal debt.

We find some ten per cent of the taxes the Federal Government takes from us goes to pay ourselves interest. What would happen if we should find that this debt the Federal Government owes us couldn't be met when it comes due, if we couldn't finance it, or if we couldn't pay the interest?

It is the federal debt that stimulates inflation. It is the federal debt that may impair our personal

Illustration from U. S. Chamber of Commerce.

THE AVERAGE FAMILY'S SHARE OF THIS DEBT IS $5,860

$259.0 BILLION

security. The federal debt is a vital factor in the security and preservation of our form of government and the freedoms for which it stands.

Democracy can not survive insolvency. Neither can our free enterprise system. Without the productive capacity of our free enterprise system we can not hope to deter or resist Russian aggression.

OUR ALTERNATIVE to free enterprise is socialism. A trend toward socialism is inherent in continued deficit spending, increasing debt, and the resulting economic and social dislocations, including inflation and mounting taxes.

These factors create demands for controls. Controls require more controls, and finally the pattern becomes so intricate that it breaks down in confusion. Prices rise and inflation spirals.

There is demand for additional taxes to halt inflation, and finally taxes reach a point of diminishing returns, suffocating the profit incentive of our free enterprise system in the process.

Then comes the temptation to increase socialism all along the line, including the necessities of life such as food, housing, medical care, and finally the sources of livelihood—business and agriculture.

Socialism, itself, is destructive of all the things that have made our country great. But socialism requires controls. Controls lead to centralization in Washington. Corruption is invariably a product of centralization of purse and authority. This combination can lead only to moral and economic decay.

There are those who have been contending that such are the conditions facing the new administration which is taking over direction of the Federal Government in Washington.

We can continue down the road to state socialism and ultimate disaster, or we can strengthen and revitalize the free enterprise system with solid fiscal policies and go forward, with our head high, as the leader of those who have the will to fight for freedom and independence.

I do not concede that either Democracy or free enterprise, or any other American freedom, has run the course of its usefulness in the world. They have been worth fighting for in the past against both economic and military challenge and I do not concede that they were any dearer to those who have fought for them before, and won, than they are to us today.

But, frankly, we are faced with a federal fiscal crisis. Unless we meet it with courage, we can expect continuing deterioration of our currency and credit, and consequently the destruction of our form of government, our free enterprise system, and all the freedom for which they stand.

What are the alternatives facing the new administration at Washington?

1. *More taxes.* Taxes are already perilously high. Diminishing returns in both revenue and production would be the certain result of more taxes.

2. *More deficit financing.* Besides the problems of financing and managing a debt of more than a quarter of a trillion dollars and all the other treacherous aspects of debt, more of it is bound to generate more inflation which in itself will further undercut what little financial and economical stability there is left.

Only the Federal Government can spend in unlimited amount. It alone determines the value of money and the extent of credit, because it alone is empowered to do so. When we think of the federal debt we must remember that a federal bond is not simply a loan to the Federal Government on which it pays interest. It is a first mortgage on all we own.

3. *Reduction in nonessential federal expenditures.* This of course is the only safe, sane, responsible, and constructive alternative.

The most inflated thing in America today is the Federal Government. Big government costs big money.

Of course, it is absolutely necessary that our military defense should be made impregnable and our efforts toward this end must be supported to the hilt. But the military is the most wasteful segment of our government today. More efficiency through which we would achieve more defense for less money is the first requirement of the new administration.

Beyond this, we must purge the federal budget of every nonessential expenditure. In the first quarter of the current fiscal year federal expenditures exceeded those for the same period last year in the following categories: Agricultural Research Administration, Farmers Home Administration, Forest Service, Production and Marketing Administration, Soil Conservation Service, Civil Service Administration, Public Roads, Economic Stabilization Agency, Civilian Defense Administration, Office of Education, Social Security Administration, Public Housing Administration, Labor Department, postal deficit, State Department, TVA, Coast Guard, Internal Revenue Bureau, and interest on the debt.

In the first quarter of the current fiscal year, there were 2,495,519 civilian employees in the Federal Government. This was more by 76,000 than were employed in the same period in the year before. Among the agencies showing substantial increases were the Post Office Department, Civil Service Commission, General Services Administration, TVA, State Department, and the military establishment.

The federal budget must be balanced immediately, through reduction in nonessential federal expenditures, and then we must move to reduce taxes, if we are to restore fiscal stability to the United States Government. Financial soundness is the heart of the American system from which our social, economic, and military flows.

We are the last free area in the world. If free enterprise democracy in the United States is not preserved, there will be no source of support and reenforcement for either ourselves or our allies.

With no intensification of the war situation, reduction in the federal expenditure level of the current year by $10 billion without impairment of our security is possible, despite existing commitments and legal requirements. This would virtually balance the federal budget. Within the next two years, under current military requirements, efficiently administered, reduction in the current spending level of $15 billion should be achieved, thus affording some relief from the present burdensome tax impositions.

This can be done only by courageous and sympathetic action by the new president and the new congress. This must be backed up and promoted by every citizen. Otherwise, it would be too much to expect.

Hub-Mounted Camshaft Gear

reduces loom downtime, cuts repair costs

By R. J. TUCKER, JR.
Plant Engineer
Patterson Mills Company

EXCLUSIVE

THE Patterson Mills Company, Roanoke Rapids, N. C., was faced with the problem of idle machines while repairs were made to the camshaft gears on Draper X-2 looms. Its solution to the problem not only applies to this loom but has innumerable applications on other equipment.

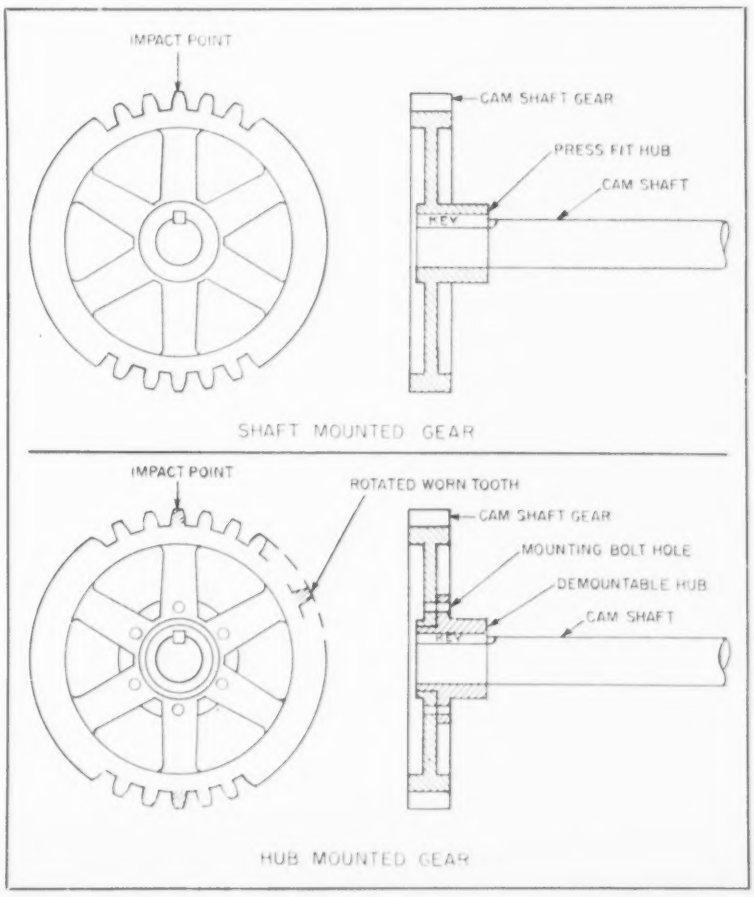
The accompanying sketch clearly shows the problem and its solution. The camshaft drives many motions on the loom; cam actions, cloth roll-up motion, stop-motions, pick counters, and other functions. This means that the shaft is fitted with many cams, gears, and sprockets which must be precisely timed. The camshaft drive gear is pressed onto the shaft, thus requiring removal of the shaft from the loom for gear replacement. This job takes two men about six hours to complete while the loom stands idle and produces no cloth.

The cams apply an impact load at two points 180 degrees apart around the gear during each complete revolution. Maximum wear on the gear is at two or three teeth at the same two points around the gear at each revolution. The other teeth serve mostly for timing purposes. After considerable usage, teeth at the impact points will wear excessively. Complete loss of a tooth, of course, means a gear replacement. Usually, however, alert mechanics will spot worn gears before tooth failure occurs.

A worn tooth segment will not carry the impact load for long but will easily keep the gear train in time. However, with the gear keyed to the shaft there is no alternative but to change the gear, whether production is lost or not. Some rapid means of rotating the damaged tooth away from the impact point would allow the machine to resume production quickly and extend the life of the gear teeth.

W. H. Leathers, master mechanic at Patterson Mills, designed a demountable hub arrangement as pictured. The gear is no longer keyed to the shaft but is mounted on the hub by six equally spaced bolts. Thus, the gear can be rapidly disconnected from the hub, rotated in steps of 60 degrees, and remounted to the hub for operation. One man can perform this change in 15 minutes. The worn teeth are removed from the impact point and the gear remains in use. Frequently, a gear can be rotated several times before a damaged tooth again is encountered at the impact points.

The demountable hub saves 5¾ hours of production and 11¾



man-hours of repair costs at each change of the gear. In case of a complete tooth rupture, a new gear can be installed with the same savings. Existing gears can be remachined to fit this hub. Gears worn too badly for a press fit on the shaft can be salvaged by fitting them on the hub mounting.

Continuous Dyeing Machine Promises Better, Speedier Work

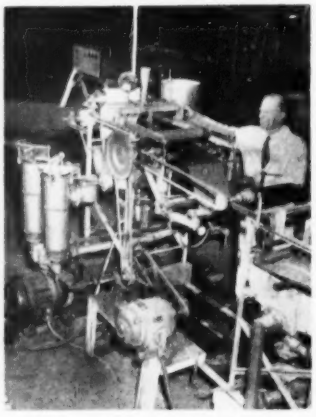
A new dyeing and scouring machine, known as the Bond Machine, promises to bring better, speedier, and more flexible continuous dyeing to the textile industry at considerable savings in dyestuffs and floor space, reports indicate.

The first public demonstration of a pilot model of the machine was made last October at the Philadelphia plant of the Hussong - Walker - Davis Company, which will manufacture the machine under the sponsorship of Pittsburgh Coke & Chemical Company. Boyce C. Bond, inventor of the machine, and a sales supervisor in the Fine Chemicals Division of Pittsburgh Coke & Chemical, conducted the demonstration.

The pilot model of the machine is capable of operating at any speed between 20 and 120 yards a minute, depending on the type of fabric and class of dyestuff used, Mr. Bond stated.

The explanation of the machine's exceptional uniformity and speed in dyeing lies in two metal plates through which the fabric passes in the dyeing process. The plates are perforated in a precisely calculated pattern which enables the dye solution to be squirted evenly on both the face and back of the fabric. The many streams of dye solution coming through each plate merge to form two almost continuous sheets of solution which meet within the fabric. Since they are under equal pressure, the opposing sheets of dye liquor are forced almost instantaneously throughout every fiber of the fabric. Automatic control of the liquor's temperature and rate of flow further speeds absorption of the dye solution by the fabric.

The machine is said to operate with an unusually low volume of dye solution, thus effecting substantial savings in the use of dyestuffs.



Pilot model of the Bond Machine.

Fabrics dyed on the pilot model include cotton, wool, rayon, acetate, high tenacity rayon, nylon, "Orlon," and "Dacron." It is also suitable for dyeing blends of fabrics.

The machine can apply all the various classes of dyestuffs, including vat, soluble vat, direct, acid, sulphur, acetate, and naphthol, according to its inventor.

The machine can be used as a continuous or single type machine.

It is estimated that a full-scale, five-unit range would measure 10 by 50 feet.

Flexibility for use in short runs of material is another advantage of the machine.

Ease of threading is made possible by automatic pressure controls for raising and lowering of rolls and upper pressure units. By the flick of a button the plates can be raised instantly from the dye liquor if the fabric should tear or break in the run. Possibility of such accidents is minimized, however, by electronic controls which make the machine practically tensionless.

Wool in Canada Always—Kimpton

There will always be an important place for wool fiber and wool textiles in the Canadian economy, according to George B. Kimpton, general manager, The Wool Bureau Inc., New York.

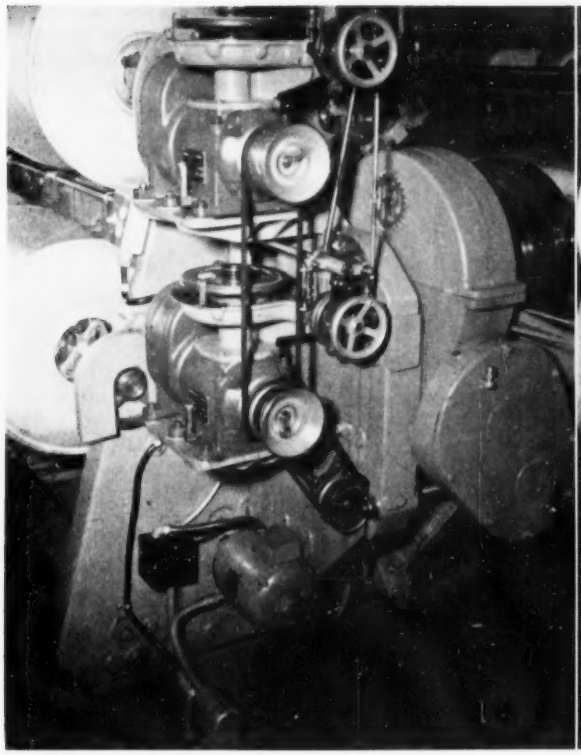
In an address last October before the Textile Society of Canada (Eastern Division) at the Ritz-Carlton Hotel in Montreal, Mr. Kimpton said that there was much exaggeration in the talk about the replacement of wool and other "natural" fibers by the so-called synthetic fabrics.

Explaining that it was not his intention to attack the actual or potential value of the newer fibers, Mr. Kimpton said he believed that "in this nation of unparalleled wealth and expanding population there is ample room for all fibers."

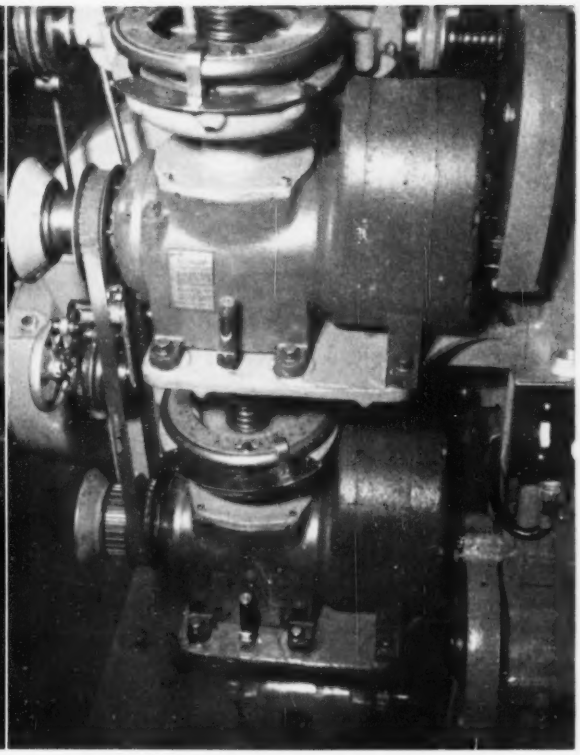
But he stressed that wool was, and would continue to be, necessary to the welfare of man, particularly in Canada and other countries in the temperate and northern climates of the world. Canadian and world demand for wool has shown an over-all increase since the end of the Second World War, he said, and in sheep raising countries flocks have been steadily expanded to assure a stable supply of raw material.

He said that the synthetic fibers were finding an important place as materials to blend or mix with wool and . . . "will provide a new market for wool without disturbing the position of the superior pure wool products."

He praised the Canadian wool textile industry for "amazing progress in styling, in the production of more fabrics in fine quality and increasingly new and saleable designs and patterns."



MOUNTING of mechanical beam letoff assembly on end of new RT-4 tricot knitting machine. Timing-belt drive connects pulleys shown in these two views.



TWO SETS OF DIALS are used to regulate the letoff of warp in accordance with the original circumference of the beams and the desired inches per rack.

High Quality Tricot Fabrics

are produced on new, improved machines

Staff Prepared

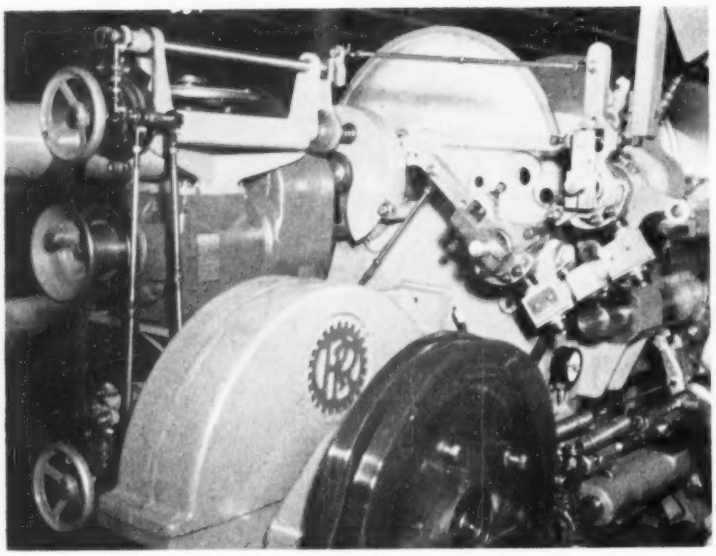
EXCLUSIVE

SOUTH CAROLINA MILL is making tricot without shadow marks and with only a fraction of the stop marks formerly produced. Mechanical beam letoff, magnetic needle-down attachment, and other refinements on Reiner Model RT-4 credited for results.

THE TRICOT knitting machines in use in a prominent South Carolina mill give a good picture of the improvements which have been made on this type of equipment in recent years. This mill has two Robert Reiner Incorporated RT-1 machines; ten RT-2; and 36 new RT-4. Since all of these are located in the same knitting room, it is possible to compare the operation of the three models and the quality of the knit goods produced.

The RT-2 is an improvement on the older RT-1, the most obvious change being the use of an end-mounted motor instead of the center mounted motor of the older model, and the use of positively driven, covered take-up rolls, in place of floating control, to draw the cloth from the machine.

The new RT-4 retains the improvements incorporated in the RT-2 and carries them several steps further. The drive motor has been increased to 5 hp, and two new attachments have been included which are proving them-



TENSION TUBE linkage which changes the position of the cones in the variable speed drive to maintain a constant lineal letoff.

selves in the production of better quality knit goods.

Mechanical Beam Letoff. The most striking addition to the knitting machine is the mechanical beam letoff. This is essentially a variable speed drive of the metallic cone type (manufactured by Graham Transmissions, Inc.), which drives the yarn beams at a constantly increasing rate in revolutions per minute, so that the lineal letoff is constant regardless of the diameter of the yarn on the beams.

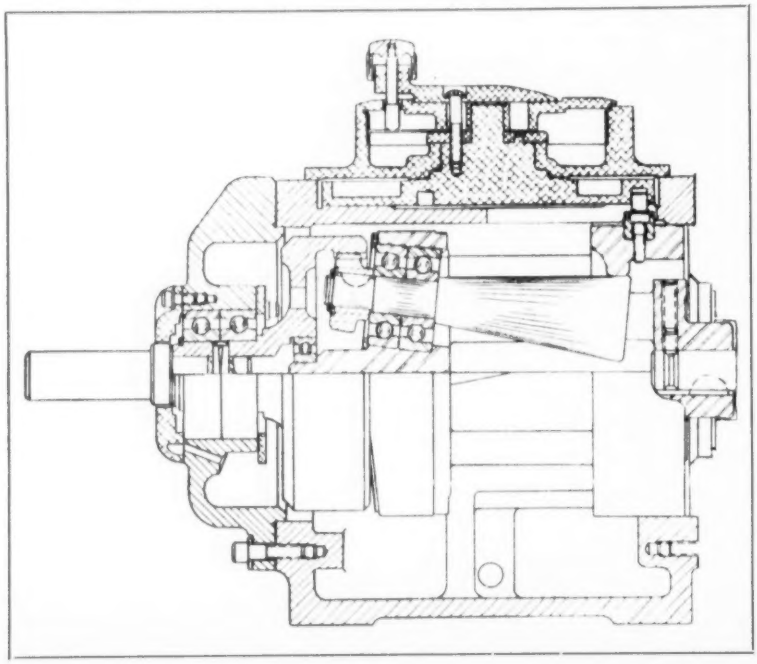
When new beams are put in place, the operator measures the circumference, in inches, and then sets a pointer on a large dial to that figure. Another pointer is set to the desired amount of yarn in inches per rack, and the drive acts automatically to maintain that runner length throughout the life of the yarn on the beam. These settings are made for both sets of beams feeding the warp ends.

While this mechanical beam letoff takes some initial setting and occasional checking by the fixer, the management at the mill says that the equipment has been found to do a good job without excessive attention for maintenance or repair.

This letoff replaces the brakes used on earlier models. The old style brakes are still included on the machines for use in the event of an outage of the mechanical letoff, but during normal operation they are left open and inoperative. And the mechanical letoff has actually eliminated the cloth defects caused by the use of friction brakes. According to the superintendent at the plant, shadow marks are the direct result of the use of friction brakes on the letoff. The mechanical letoff eliminates these marks completely, and it is possible to look at the knit goods coming off the earlier models and see the difference.

Furthermore, when friction brakes are used, it is necessary to clean the cork linings with a solvent every 24 hours and adjust the brakes every cut. This maintenance is not required with the new mechanical letoff.

CROSS-SECTION of the Graham transmission, showing arrangement of tapered rollers which make possible a variable speed output.



Stop Marks. There is no indication that the mechanical beam letoff has much to do with the reduction of stop marks. The considerable reduction of this imperfection in the cloth knitted on the RT-4 seems to be more the result of other design improvements. There is no doubt that the use of the larger motor with its higher starting torque is part of the story. The first course after a stop comes much closer to being knitted at the same speed as the courses that follow, simply because the larger motor gets the machine started faster.

However, the most important improvement, so far as the reduction of stop marks is concerned, is

the magnetic brake and the needle-down attachment. These two additions to the machine act as one. It is the job of the magnetic brake to bring the machine to a stop as quickly as possible, just as it is the job of the motor to start quickly. The needle-down attachment is designed to stop the machine with the needles down, so that any broken warp ends can be tied-in without turning the machine by hand. The idea, theoretically, is to stop the machine instantaneously with the needles in down position, then start it up instantaneously after the need for the stop has been handled.

"Instantaneous" is not a word which can be applied to any practical machine. A mechanical device can only approach the instantaneous in starting and stopping. However, if the needle-down attachment is properly adjusted and functions exactly as it should, stop marks are eliminated from the knitted tricot cloth.

The needle-down attachment does not, however, function perfectly every time. Luck is involved to a certain extent. If, by chance, the operator throws the stop lever at the "wrong" time in the cycle, the machine's momentum will carry the needles past the true down position despite everything the magnetic brake and the needle-down attachment can do to avoid the run-over. A stop can also occur at such a time that the needles do not quite make it to the down position. When either of these conditions occurs, it is necessary that the machine be turned by hand to get the needles down, and a stop mark is likely to appear.

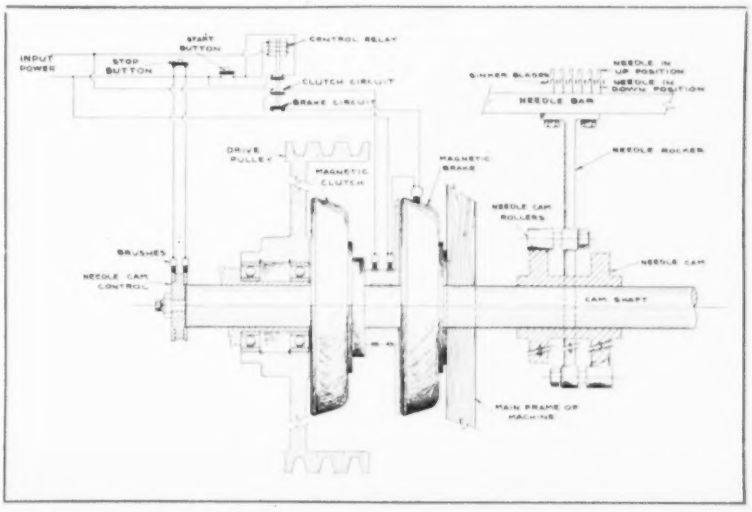
It was estimated by the management of the mill that the magnetic brake and needle-down attachment are able to stop the machine in accurate, needle-down position about nine times out of ten—which means the elimination of nine out of ten needle marks. No machine manufacturer need be anything but proud of such an improvement.

Another important improvement in the RT-4 is the design of the take-up roller. The finished cloth can be pulled off in the conventional manner, or the complete take-up roller can be removed from the machine and placed on a carrier. When this method is used, the fabric can be kept in its original rolled condition for inspection or other processing. A reserve roller is placed in the machine and the knitting continued with only a few seconds of interruption.

The new RT-4 also has a number of other improvements, but they might better be termed refinements, when compared to the important new beam letoff and the magnetic brake—needle-down attachment.

Results at this plant prove that a tricot without shadow marks and with only a fraction of the stop marks can be produced on these machines.

MAGNETIC BRAKE and needle-down attachment inter-relation is shown in this drawing of the units.



Small Plants Urged to Provide Health Services

There is an overwhelming lack of health services in small plants, the Small Defense Plants Administration reports, even though most small plants have a more pressing necessity for such services.

To substantiate this statement the results of a recent survey of its member companies by the National Association of Manufacturers were cited:

Less than five per cent of companies with under 250 employees had arrangements for a nurse or physician to provide care in the plant at specified times. Of plants with 250-500 employees barely 33 per cent had a nurse in attendance, and only 16 per cent had arrangements with a physician to give care on a specified time schedule. Almost none of the plants of this size hired a physician full time.

Pointing out that statistics show that, by and large, small plants have 2½ times as many accidents as large ones, in proportion to the number of employees, and that experience indicates that the employees in small plants are not in as good general health as those in large plants, the Agency states that "it would seem that small plants have particular need for in-plant health and medical programs."

Many employers have found that the reduction in absenteeism, the decrease in workmen's compensation costs, the lessening of labor turnover, and particularly the improvement of employee morale have more than paid for the cost of medical programs.

31st AATCC Convention

THE 31st annual convention of the American Association of Textile Chemists and Colorists was held November 6-8 at the Statler Hotel in Boston, Mass., under the auspices of the Northern New England Section. Theme of the meeting was "America Advances Through Creative Chemistry."

Next year the annual meeting will be held in Chicago and the following year in Atlanta.

At the Boston convention, Werner von Bergen of Forstmann was awarded the Olney Medal for outstanding achievement in the field of textile chemistry.

From an original membership of 265, the association now has seven thousand members, over a third of whom are mill men, the others being associated with suppliers, research organizations, schools, and other textile allied interests. Attendance at the convention was good (1732), with approximately 20% of those attending coming from the mills.

A number of the papers presented at the convention will be of interest to mill executives, superintendents, department heads, chemists, and other wet processing personnel. In view of the comparatively few persons from mills who were able to attend the convention or who will have access to the technical papers, "Textile Industries" presents in the following pages abstracts of a number of the addresses:

Printing Acrylic and Polyester Fibers

RHODE ISLAND SECTION
Winning Paper

PRINTING of new synthetic fibers assumes great importance as output expands. Investigating conventional printing methods and exploring possibilities have resulted in better understanding of the subject.

Considerable variation in print quality results from insufficient or improper preparation of Orlon or Dacron fabrics. Unless oils and sizes used in spinning and weaving are removed, poor wash fastness and crock fastness result.

Orlon is prepared by wetting out with solvent emulsion, standing four to six hours, and then boiling-off in synthetic detergent, soap, and soda ash for one hour. It is finally treated at 205 F for one hour in fresh bath containing 0.25% sodium chlorite, 0.25% oxalic acid, and 0.25% nonionic detergent.

Dacron is prepared by scouring in synthetic detergent and ammonia. The fabric is pre-heat set at 450 F for 30 seconds at controlled width to prevent shrinkage during subsequent heat treatments.

Orlon can be printed with:

1. Selected acid dyes followed by pressure steaming (not new approach).

2. Acetate dyes followed by pressure steaming (not new approach).

3. Aridye pigment colors in extra low crock series followed by heat-treating three minutes at 300 F and washing five minutes in 0.5% synthetic detergent at 160 F.

4. Vat pigments in ethylcellulose emulsion followed by heat-treating three minutes at 300 F and oxidizing in solution containing 0.5 oz sodium bichromate and 0.25 oz sulfuric acid per gallon at 160 F. The fabric is then washed five minutes in 0.5% synthetic detergent, at 160 F, rinsed, can dried, and dry framed.

5. Vat acids in ethylcellulose emulsion followed by heat-treating three minutes at 300 F. It is then oxidized and washed as for vat pigments described above.

Dacron can be printed with:

1. Acetate dyes followed by pressure steaming (not new approach).

2. Aridye pigment colors of extra low crock series followed by heat and washing treating as described for Orlon.

3. Vat dyes as pigments in ethylcellulose emulsions followed by heat-treating three minutes at 425 F, followed by heat and washing treatment as described for Orlon.

4. Vat dyes as vat acids in ethylcellulose emulsion followed by heat-treatment three minutes at 425 F, followed by heat and washing treatment as described for Orlon.

5. Leuco esters of vat dyes in ethylcellulose emulsion followed by heat-treating three minutes at 425 F and padding with cold solution of 10 oz caustic soda (104 Tw) and 6 oz sodium hydrosulfite per gallon. Fabric is steamed 15 seconds at 214 F and passed through a cold solution of five oz sodium bicarbonate per gallon. It is then oxidized and washed as described previously.

With leuco esters of vat dyes, fixation can be obtained by simple heat treatment without chemical assistants. Stripping treatment removes only loose surface color without material loss of color yield, producing

prints of excellent fastness to light, washing, and crocking.

This investigation has established:

1. A low solids emulsion carrier can be used for printing vat pigments, vat acids, and leuco esters of vat dyes on Orlon and Dacron.

2. High temperature alone can be used as a developing medium for fixation of vat pigments, vat acids, and particularly leuco esters on Orlon and Dacron without assistants.

3. Aridye pigments can be printed in the same pattern with vat pigments, vat acids, and leuco esters of vat dyes since the print paste emulsions are all of similar nature.

Stripping Dyed Hydrophobic Fibers

PHILADELPHIA SECTION

REMOVAL OF COLOR from hydrophobic fibers is one of the necessities with which the dyer is sometimes confronted. In addition to the problem posed by the chemistry of the dyestuffs involved, there is the difficulty of bringing stripping agent and dyestuff into the same reaction environment.

There are two basically simple and effective procedures:

1. Physical removal of color by use of large volumes of dilute soap solutions.

2. Chemical removal of color by use of sodium chlorite.

Special techniques for stripping specific fibers are:

Type 41 Orlon. 10% sodium chlorite at boil, adjusted to pH 3-4 with nitric acid. Does not affect fastness test of redyed samples.

Type 81 Orlon. Acidified 5% sodium chlorite. Also, 30-50% sodium chloride is useful for uneven dyeings where partial removal of color is required.

Dacron. Acid sulfoxylate formaldehyde followed by sodium hypochlorite at pH 3-4. Stable carriers (monochlorobenzene or benzoic acid) increase strip efficiency. Azoic type dyes can be stripped with sulfoxylate; anthraquinone types with sodium chlorite or hypochlorite.

Dynel. Sodium chlorite with either nitric acid or quaternary ammonium compound. Swelling agents effective for acetate and acid dyes. Redyeing results in lighter shades.

Saran. Sodium chlorite in presence of nitric acid or benzoic acid for acetate dyeings. 4% solution of sodium hypochlorite neutralized with acetic acid, applied 10% on material weight. Also, acidic Textone.

Acrilan. 4% solution of sodium hypochlorite neutralized with acetic acid, applied 10% on material weight. Also, acidic Textone. For reduction of shade, sodium carbonate at pH 9-10.

Cellulose Acetate. Large volume of soap solution for dispersed acetate colors (2% soap solution, liquor ratio 100-1, temperature 200 F).

Nylon. Large volume of soap solution for dispersed acetate colors and ordinary acid colors. Zinc sulfoxylate formaldehyde followed by sodium chlorite is effective general strip.

X-51. 10% Textone, 10% Quadrofos, 10% acetic acid glacial, boil ½ hour, rinse well, bleach with 1 gm/liter sodium hypochlorite for 20 minutes at 170 F. Rinse well, dry.

A Study of New Techniques in Warp Size Preparation

SOUTHEASTERN SECTION

A PHASE of textile wet processing not often subjected to technical investigation included a laboratory investigation of size mix viscosities as obtained by heating in the Brabender Viscograph, and by heating followed by homogenization. Also included was a study of size mix viscosities being obtained under actual mill preparation procedures at five cotton mills in the Southeast, all corporate members of the AATCC.

In the laboratory phase of the investigation six commercial and modified starches were studied: corn, potato, rice, wheat, tapioca, and sago. Two-hour cooking cycles for each starch were obtained with the Brabender Viscograph and the viscosity histories of the various starch pastes were recorded and presented on a single graph (Fig. 1). From these data, viscosity stabilities were determined for each starch and reported as the ratio between viscosities at the maximum point and after 30, 60, and 75-minute heating periods.

Logarithmic plots of both maximum and level viscosities versus starch concentrations exhibited straight line relationships which are shown graphically for all six starches (Fig. 2).

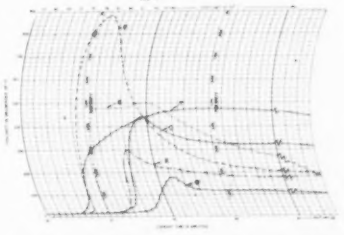


FIG. 1. Maximum and level viscosities of six unmodified starches prepared by heating starch pastes and measured by Viscograph.

In the investigation of the effect of homogenizing pressures on heated starch pastes, viscosity readings were obtained with the Brabender Viscograph, the Ultra-Viscoson, a flow-type viscometer, and the Brookfield Synchro-Lectric Viscometer. Viscosity readings were taken at various homogenizing pressures from 0 to 4000 psi with the pre-heating temperatures held constant at 188 F. All of the homogenizing studies were made with the starches at a concentration of one pound per gallon of cold slurry. A portion of this data for corn starch is shown in the accompanying table and Fig. 3.

There was evidence that for each starch there was a particular

homogenization pressure which effects the maximum reduction in paste viscosity. It was also noted that there were substantial increases in the paste temperatures due to the attrition of homogenization. Upon being subjected to 1500 psi pressure in the homogenizer the heated starch pastes

Effect of Homogenization Pressures on the Viscosity of Corn Starch Pastes When Initial Temperature is Constant

Time in Minutes	Homog. Press. in p.s.i.	Ultra-Viscoson in U. V. Units	Initial Temp. F.	Final Temp. F.	Flow-Type Viscometer in Secs.	Brabender Viscograph in B. U.
0	0	9.0	188	186	NF*	—
4	250	8.0	188	189	NF*	—
8	500	7.5	188	189.5	25.0	220
12	750	7.0	188	191	12.0	—
16	1000	7.0	188	194	9.5	—
20	1250	6.8	188	194	8.9	—
24	1500	6.75	188	197	8.4	—
28	2000	6.5	188	200	9.2	110
32	2500	6.0	188	206	6.3	—
36	3000	6.0	191	207	7.4	—

*No Flow Through Viscometer at This Pressure.

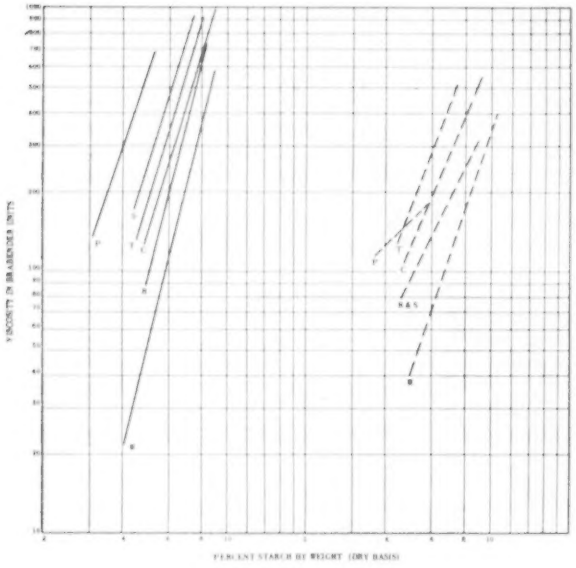
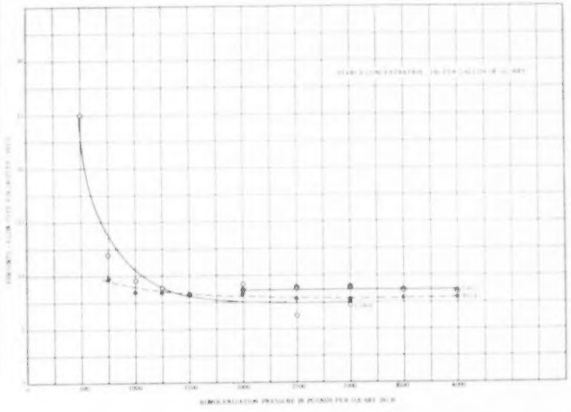


FIG. 2 (left). Summary of maximum and level viscosities of six unmodified starches as measured by Viscograph.

FIG. 3 (below). Effect of homogenization pressure on the viscosity of sago, rice, and corn starches, when initial temperature is constant, as measured by flow type viscometer.



showed temperature increases of about 9 F.

The mill survey was accomplished by transporting the same viscosity instruments used in the laboratory to the mill warp size preparation areas for obtaining data on size mixes prepared under actual mill processing procedures. The mills were reported as Mills A, B, C, and D, all sizing carded cotton warp yarns with mixes containing pearl corn starch; size preparation was being accomplished with Girdler Corporation's Votator, Manton Gaulin's homogenizer, and Scott & Williams' Hydropulse.

The mill size mixes varied in concentration from 12.4 oz to 17.9 oz of pearl corn starch per finished gallon, and the fatty matter addition on the basis of the starch weight varied from 3.4% to 4.2%. Preparation procedures and techniques employed by the mills were given.

An interesting phase of the paper was that where consistencies in mill viscosity data were apparent it became possible to interpret these defections from the laboratory study data.

The paper points up the fact that the newer machine methods of preparing warp size on a continuous flow basis make it possible to adapt instrumentation to continuously record and/or control viscosities, and that these instruments should signal the need for a manual or automatic correction when size is not being prepared within pre-determined viscosity limits.

Textile Odors and Deodorants

NORTHERN NEW ENGLAND SECTION

AT ANY MOMENT the textile chemist may have a problem involving odor such as rancid finishing oil or decomposing shrinkage control resin. This paper, based on continuing laboratory work, is an attempt to distinguish what is provable from what is imaginary or absolutely not so.

To affect the olfactory nerves a substance must be in the gaseous or vapor phase. Volatile odors, particularly acidic or amine stenches, have a tendency to be absorbed by textile fabrics. Alcohol, ester, or ether perfumes do not have this permanency unless augmented with fixatives. Less volatile, more permanent objectionable odors can be

subordinated by more volatile pleasant odors—a principle exploited by commercial deodorants and air-refreshers.

Masking is not true deodorizing. Since the olfactory nerves are readily saturated with a given odor, it is possible to recognize an offensive odor which has been masked by a deodorant if the subject has sensed the deodorant previously. By the same procedure one may determine up to four or five ingredients of a mixture of solvents by first saturating the nose with the most obvious and then the next. By sniffing straight benzaldehyde first, one may detect the rancidity of a tallow masked by mibane.

True deodorizing can be affected by absorption by activated carbon and clays and by destruction of the odoriferous substance by chemical combination. Effective chemical controls are the neutralization of odoriferous acids like butyric and caproic by ammonia vapors, the condensation of amines by aldehyde vapors, the combination of sulphides with lead, copper, silver, or other heavy metal.

Simple equipment for evaluating a deodorant consists of four wide mouth flasks in line connected by glass tubing to a suction line. Air is successively drawn through the flasks, entering the top and drawn from the bottom. To ensure longer contact with the contents of the bottles, the suction is intermittent. Bottle No. 1 contains on odoriferous substance, No. 2 contains cotton, No. 3 contains the deodorizer, and No. 4 contains cotton.

After the draught has been running long enough to give bottle No. 2 a persistent odor (time determined by experiment), bottles Nos. 2 and 4 are disconnected and stoppered. Meanwhile a fresh odoriferous substance is put in bottle No. 1 and a new deodorizer is put in bottle No. 3. The number of permutations and combinations is vast. After standing some hours, sniff bottle No. 4 first. If bottle No. 4 smells nearly as strong as No. 2, the deodorizer is not efficient.

Effect of Conditioning on Crease Recovery Angle

PIEDMONT SECTION

RESIN TREATED fabrics require considerably more than a few hours of conditioning before reaching optimum performance levels. Untreated fabrics sometimes show performance characteristics similar to resin treated ones when allowed to condition for extreme periods of time. Measurements of this phenomenum by the Monsanto method are reported here.

The first fabric studied was an all-rayon shirting, desized and scoured, and aged over a year. Initial test for crease recovery angle showed no difference between a urea formaldehyde treated sample and an untreated sample, both conditioned for 24 hours.

From the same fabric, a water blank was prepared by subjecting to resin treatment procedure except that water alone was used in the padding operation. Measurement of the crease recovery angle is shown in Table 1.

It may be noted that the water blank crease recovery angle deteriorates rapidly when wetted and recovers its ability to resist mussing only after several months.

Parallel studies made on other all-rayon fabrics corroborate these results. Rayon-acetate blends behave similarly to all-rayons, as indicated in Table 2.

From Table 2, it may be deduced that fabric samples are not conditioned sufficiently before measurement of crease resistant angle. It will be noted that in time the water blank approaches the control while the resin treated sample gains.

Tables 3 and 4 further explore the effect of conditioning. From these data it is evident that three dry cleanings yield a crease resistant angle approaching ultimate performance.

Table 4 indicates that pressing enhances the effect of resin treatment and also produces a greater spread

Crease Recovery Angles for All-Rayon Shirting (Table 1)

Water blank after 24 hours conditioning	90°
Water blank after 60 days conditioning	120°
Resin treated fabric after 60 days conditioning	140°
Untreated control after 60 days conditioning	120°

Crease Recovery Angles for 50/50 Acetate-Rayon Suiting (Table 2)

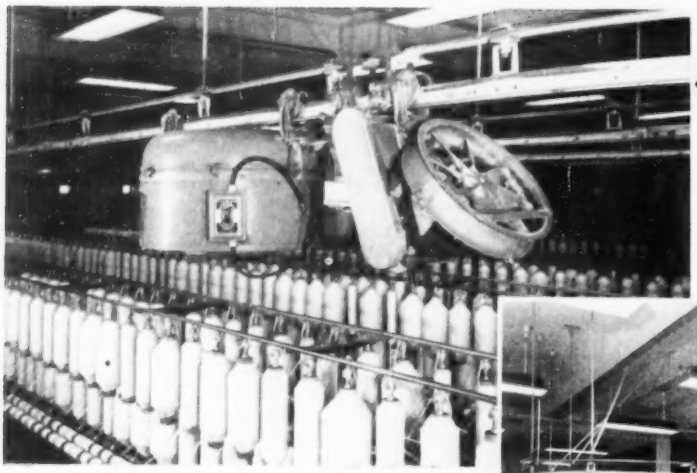
	Tear Strength Lbs.		Crease Resistant Angle Initial		Crease Resistant Angle After 3 Dry Cleanings	
	Warp	Fill	Warp	Fill	Warp	Fill
Control	12.0	10.0	124	122	120	115
Water Blank	11.0	8.0	95	99	117	119
Resin Treated 10%	4.8	4.0	119	124	138	140

Comparison of C.R.A.* for Rayon Shirting Under Variable Conditioning (Table 3)

Unpressed Samples

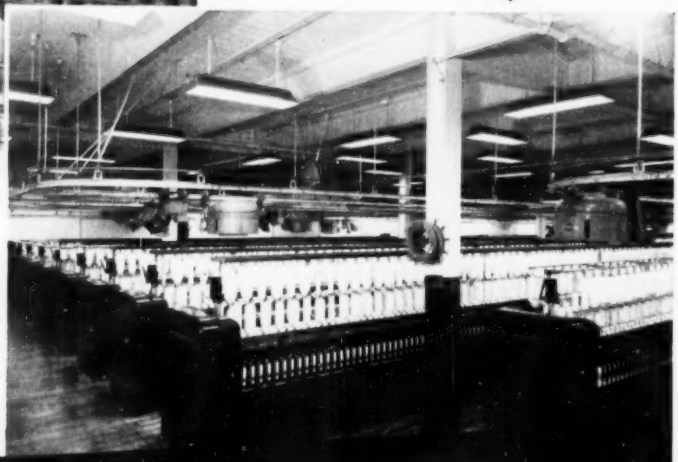
Sample	Direction	CRA After 24 Hrs. Conditioning	CRA After 3 D. C.**	Av. CRA's After 2 Days
Resin Treated 15%	Filling	115	130	137
" " 10%	Filling	122	124	135
" " 15%	Warp	117	123	128
" " 10%	Warp	118	125	125
Control	Warp	120	110	123
"	Filling	130	122	133
Water Blank	Warp	78	102	103
"	Filling	88	95	113

*C. R. A.—Crease Recovery Angle, Degrees
**3 D. C.—3 Dry Cleanings



Cleans Up—Cleans Down
For clean ceilings and clean frames.

How do your spinning rooms compare with this for cleanliness? Photo taken during normal operations.

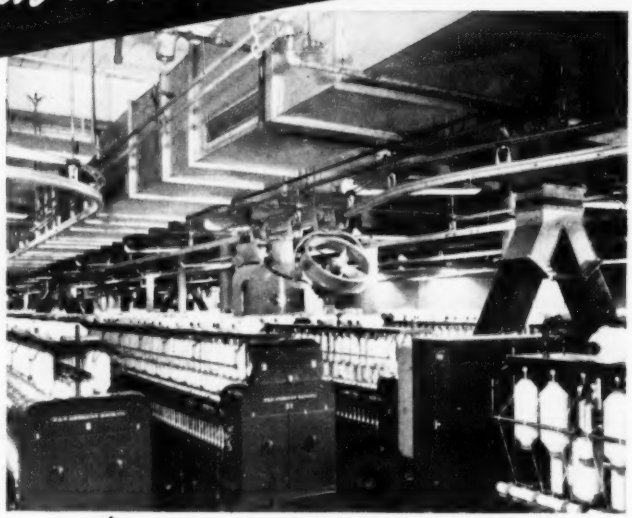


STANDARD EQUIPMENT FOR *Really Clean Mills*

Overhead cleaning is recognized today as standard practice in mills producing high quality yarn. It is almost axiomatic that a thoroughly cleaned spinning room will produce clean yarn.

American MonoRail Automatic Cleaning for over and under the frame and for ceiling cleaning will prevent lint accumulation, produce better running work, reduce costs, and increase mill efficiency.

Let an experienced engineer consult with you on your cleaning problems. He will also be glad to talk with you about your handling problems.



Note clean ceiling even over air duct. This mill no longer "blows-down" ceilings.

THE AMERICAN MONORAIL COMPANY

13106 ATHENS AVENUE CLEVELAND 7, OHIO

Comparison of C.R.A.* for Rayon Shirting Under Variable Conditioning (Table 4)

Sample	Direction	Pressed Samples CRA After 24 Hrs. Conditioning	CRA After 3 D.C.**	Av. CRA's After 5 Days
Resin Treated 15%	Filling	135	150	148
" " 10%	Filling	124	137	137
" " 15%	Warp	135	143	143
" " 10%	Warp	126	140	132
Water Blank	Warp	93	127	114
"	Filling	102	127	121
Control	Warp	125	134	125
"	Filling	124	139	132

*C.R.A.—Crease Recovery Angle, degrees
**3 D.C.—3 Dry Cleanings

between the different levels of resin content.

These experiments prove that resin treatment shortens the period of conditioning necessary to high performance of crease resistance. A resin treated garment may be ready for use within a day or so after cleaning, whereas one made from an untreated fabric would have to condition for many weeks. As long as the untreated fabric remains dry, it would perform well. However, subject to humidity and body conditions, its efficiency would be less than its resin treated counterpart.

Variables Affecting Dye Fixation in Padding

NEW YORK SECTION

THE N. Y. SECTION has already reported results of a study relating to variables affecting pickup in padding, but the data offered no clue to diffusion and fixation of direct dyes in the padding operation. Among the variables selected for further investigation were: pretreatment of cloth; temperature of padding; treatment of cloth after padding; temperature of drying; dyestuff classes; additions to padding liquor. A 92 x 64 pigment taffeta viscose rayon was chosen for experimentation.

Causticizing gave fuller, brighter shades. Fixation was superior to that obtained on uncausticized samples. The methods used in a causticizing pre-treatment would inject some variation in result.

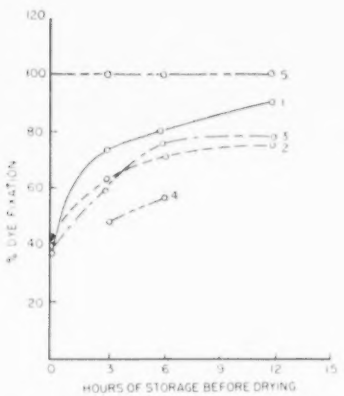
When the material is dried immediately after padding, padding temperature makes little difference. Temperature effects are significant when the padded rolls are laid up before drying.

There is a sharp increase in fixation in the first six hours of storage after padding with fixation improving gradually for six hours thereafter. *Any means which can be employed to produce a high temperature padding, and to maintain the highest temperature possible in the stored roll, will increase dye fixation.* Drying immediately after padding does not yield good fixation.

Temperature of drying from room temperature to 250 F has little effect on color fastness.

Class II and III (Society of Dyers and Colourists) direct colors, considered to have good wash fastness, were selected for experimentation. In plant runs, colors from each of the classes gave excellent results in levelness, shade, and color fastness. Class III colors showed the most significant improvement in shade and washfastness as a result of pad dyeing techniques evolved in the study.

Diethylethanolamine as an additive to the padding solution gave indications of speeding up fixation of some colors, particularly Grey LVGLA.



EFFECT of various procedures on fixation of Direct Fast Blue Green BL: (1) Causticized, hot before pad, frame dried at 250 F; (2) Not causticized, hot before pad, frame dried at 250 F; (3) Not causticized, hot before pad, air dried; (4) Not causticized, cold before pad, frame dried at 250 F; (5) Beaker dyed standard.

Producing Bonded Fiber Fabrics

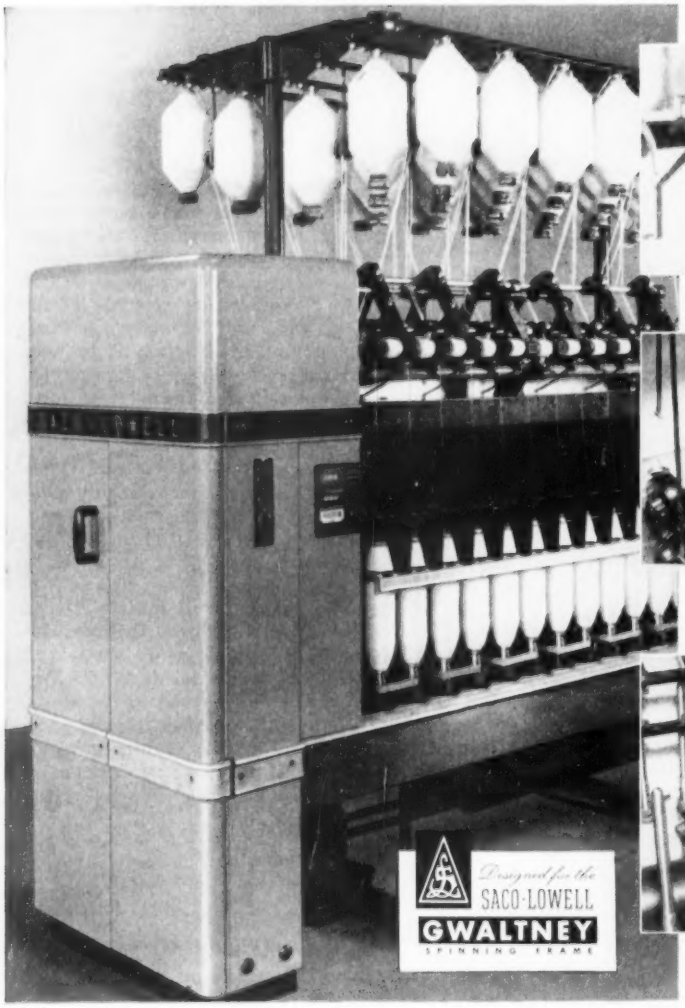
By HOWARD E. SHEARER
Textile Research Department
American Viscose Corporation

A SIMPLE and widely used method of producing bonded fabrics (non-woven) is arrangement of cotton cards in series or parallel, the web from each card being laid upon that of the preceding card. About 35 lb/hr from each card is not unusual, but may be further increased by using a double picker lap feed and double doffers.

Fillet and metallic wire on revolving flat or roller top cards is used. Garnetts and woolen cards can deliver greater poundage in wider widths and are more versatile as to fibers run; also offer uniformity and less parallelization of fibers, thereby increasing transverse strength of the web. Some woolen cards produce webs at 150 lb/hr; garnetts twice this rate. Webs may be split at doffer.

On garnetts a cross web laying

New Departure... is proud to play a part in the new Saco-Lowell Gwaltney Spinning Frame — in the positions indicated:



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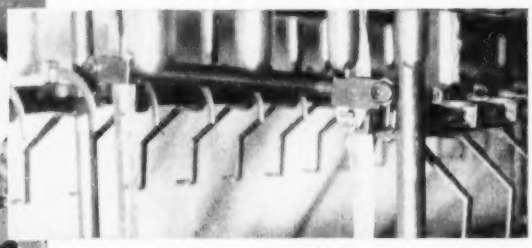
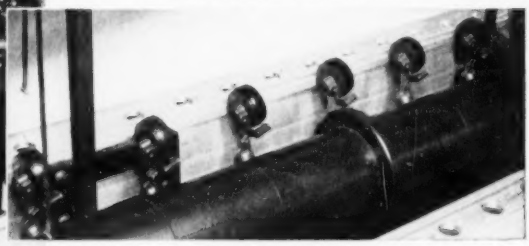
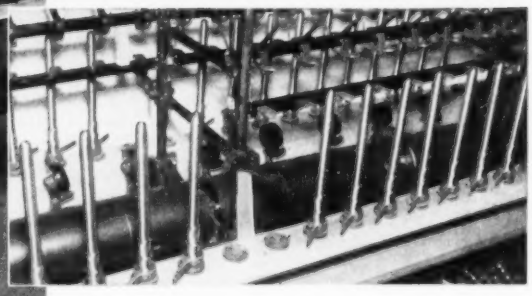


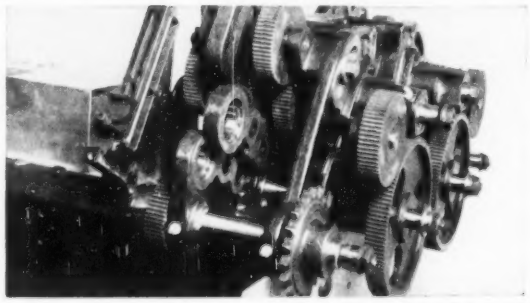
New Departure Ball Bearings in Guide Rolls on Lift Rods



New Departure Ball Bearings in each Tension Pulley



New Departure Ball Bearings in each New Era Spindle



New Departure Ball Bearings in the Drive End Assembly

Nothing Rolls Like a Ball . . .

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS
BRISTOL, CONNECTICUT

method permits delivery from a single, two, or three-cylinder set-up of fiber mats ranging from two to sixteen ounces per yard in 84" widths, with strength in both longitudinal and transverse directions. Web can be bonded, when composed of a blend of potentially adhesive and non-adhesive fibers, by passing it around a heated cylinder under controlled pressure supplied by a blanket and adjustable rolls.

Methods have also been developed for improving strength of carded webs by subjecting them to a drafting operation to align the fibers.

Bonding agents used are plasticized cellulose acetate and Vinyon, PVA, cellulose xanthate, rubber latex, butadiene, and vinyl resin emulsions. Drying of agents is accomplished by calender rolls, dry cans, and multiple pass hot air ovens.

Randomly dispersed fibrous mats are also formed by a combination of carding and air suction delivery principles (machine by Curlator Corporation).

In dyeing, the fiber and bonding agent will govern the selection of the dye; direct and alcohol soluble acetate dyes are frequently used. Sometimes faster colors and stock dyed fiber are employed.

Convention Report

One method of dyeing fabrics of rayon and a thermoplastic bonding fiber: enter cool aqueous dye bath with wetting agent, remove excess liquor by squeeze rolls, through steam-air oven at 180 F, into rinsing and finishing spray, squeeze rolls (at slightly faster rate to give drafting action), then dried on cans. Fabrics dyed contrasting colors may be made into single fabric by this method.

Physical Characteristics of Some Commercial Non-Woven Fabrics

SAMPLE	V-C65D	V-R65D	W-1165	W-1182	P5-360	M-A103	L31-2830
Weight — oz/sq yd	1.67	1.54	2.91	2.75	3.38	1.76	2.91
Thickness — inches @ 1 lb/in² pressure	0151	0038	0121	0076	0124	0173	0101
Breaking Strength (Grab)							
Lengthwise — lb	31.5	37.5	10.5	41.0	22.5	19.5	9.5
Crosswise — lb	9.0	9.0	0.5	13.5	6.0	3.0	9.5
Tearing Strength (Trapezoid)							
Lengthwise — lb	1.0	2.0	2.0	2.0	1.0	1.0	1.5
Crosswise — lb	0.5	1.0	0.5	0.5	0.5	0.5	1.5
Bursting Strength — lb (Scott Ball Burst)	10.0	18.0	3.5	11.5	9.0	11.0	5.5
Permeability — cu ft/min per sq ft	185.0	254.0	27.6	3.5	214.3	390.2	54.3
Absorbent Capacity — % (Chicopee Method)	616	593	837	109	512	966	1179
Stiffness — (Gurley)							
Lengthwise — mg	235	234	68	93	95	34	45
Crosswise — mg	95	46	11	28	13	18	42
Drape — Hanging Loop Method							
Lengthwise — inches	2.1	1.5	2.0	1.7	2.1	2.2	2.1
Crosswise — inches	1.8	1.7	3.2	2.3	3.2	2.7	2.1
Flammability (AATCC Tentative Method)							
Lengthwise — seconds	9.3*	7.1	12.1*	25.8*	7.7	8.4	11.6
Crosswise — seconds	8.6*	7.8*	12.3*	27.6*	11.2	7.2	12.0

Fabrics V-C and V-R are of cotton and rayon respectively, both of an overall liquid bonded type with firm, fairly hard finish. Fabrics W-1165 and W-1182 are of another manufacture, employing thermoplastic fiber as the bonding agent. W-1182 possesses a papery hand; W-1165 is softer and bulkier. Sample P-5 is a multiple cotton card web type, overall bonded in a mock longitudinal rib formation with synthetic latex. MA fabric is a rayon-cotton blend, intermittently bonded with a series of printed transverse resin stripes. L31 is overall resin bonded and calendered type of carded and blown isotropic fiber web. Samples marked with an asterisk (*) required two or more rapidly repeated applications of flame in order to ignite them.

Controlled Redox Potential Method of Copper Dyeing Orlon

By R. H. BLAKER
E. I. DuPont de Nemours & Co.

THE NEWEST development in the copper dyeing method for polyacrylonitrile fibers (e.g. Orlon) is the use of the redox potential measurements which establish the amount of reducing agent required. The copper dyeing method is unique because the addition of an inorganic salt, the cuprous salts, to a dye bath confers dyeability of Orlon with acid dyes. (See TI, December 1951, page 140.)

A practical dyeing procedure is guided by five principles:

1. The copper must be in the cuprous valence state to be effective in promoting the dyeability of acrylic fibers.

2. The amount of cuprous copper absorbed by the fiber is proportional to the concentration of cuprous copper in the dyebath.

3. The amount of cuprous copper absorbed depends on the pH of the dyebath.

4. The rate of copper absorption depends on the temperature and is very slow below 212 F.

5. The amount of dye absorbed is proportional to the amount of cuprous copper absorbed by the fiber.

The redox potential measurements make it possible for the dyer to avoid the difficulties caused by insufficient or excessive reducing agent. An electrical potential is generated between certain electrodes when they are immersed in a solution which contains either an oxidizing or a reducing agent. This voltage can be an indication of the capacity of the solution for undergoing a reaction either of oxidation or reduction, and can easily be measured by commercially available instruments.

The process consists of two parts: first, the reduction potential of the

(Continued on page 124)

Photo Album

a trip to bermuda

nov. 14-22, 1952

Southern Combed Yarn Spinners Assn.

Officers and Directors — 1953

President—W. P. Hazlewood, Pickett Cotton Mills, Inc.
1st. Vice-President—R. Barton Hayes, Hudson Cotton Mfg. Co.
2nd. Vice-President—Alfred S. Robinson, Rex Mills, Inc.
Treasurer—M. T. Cameron, A. M. Smyre Mfg. Co.
Executive Secretary—C. C. Dawson
Secretary—Mrs. R. S. Greene

Directors

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Alfred G. Meyers, Textiles, Inc.
Frank Lyman, Fitchburg Yarn Co.
Ernest Boger, Boger & Crawford Spinning Mill
R. S. Dickson, American and Efird Mills
Jean Schenck, Lily Mills Co.
Robert J. Gurney, Gastonia Combed Yarn Corp.
Donald R. Jones, Johnston Mfg. Co.
R. Dave Hall, Stowe Thread Co.
F. C. Sherrill, Gem Yarn Mill, Inc.
S. M. Butler, Glenn Mills, Inc.
D. P. Stowe, Perfection Spinning Co.

Chairman Executive Committee
George W. Boys, Green River Mills, Inc.

The Carded Yarn Association, Inc.

Officers and Directors — 1953

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Vice-President—Halbert M. Jones, Waverly Mills, Inc.
Chm. Dyed Yarn Div.—R. Curtis Jordan, Jr., Jordan Mills, Inc.
Exec. Vice-Pres., Treas. & Secy.—E. Owen Fitzsimons

Directors

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*E. N. Brower, Brower Mills, Inc.
J. A. Cooper, Harriet Cotton Mills
E. B. Borden, III, Borden Mfg. Co.
Chas. M. Geer, Callaway Mills Co.
J. Craig Smith, Avondale Mills
W. N. Banks, Grantville Mills
G. P. Barnwell, Bibb Mfg. Co.
Hyman L. Battle, Rocky Mount Mills
*Executive Committee
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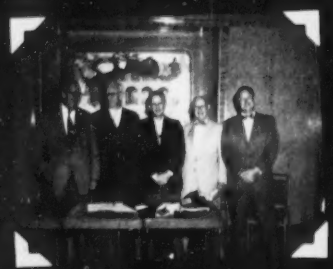
*Luther Dana, Dana Warp Mills
R. C. McCall, Pinnacle Mills
Frank Pate, Wahadkee Yarn Mills



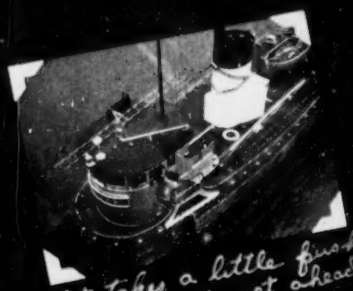
Combed
W. P. Hazlewood
R. Barton Hayes
Alfred Robinson
Claude Dawson
George W. Boys

"Tickets, Mr. Neal"

Carded.
Standing: E. N. Brower, Ed Malloy, E. B. Borden III, Claude Elrod, J. G. H. Morris, J. R. Newell, G. P. Barnwell, & Karl Bishopric
Seated: D. R. La Far, Jr., Arthur K. Winget, Halbert M. Jones, E. O. Fitzsimon

"Anchors Aweigh"

Welcome aboard at Norfolk!

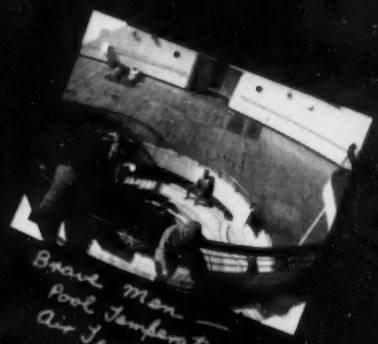


It takes a little push to get ahead.

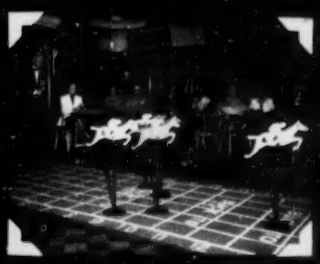
Yarn Associations' Cruise to Bermuda

Leaving Norfolk — Four Millers and friends

That gay, mad first day at sea —



Brave Men — Pool Temperature 72° Air Temperature 64°



Horseracing on board

Into Bermuda — Through the reefs

First sight of St. George

Cabs — Ready to pounce!

The Connors — The first to touch land.

And then a little shopping —

The Shufords can ride!

Governor Gotham before the fall.

Mid-Ocean News

Yarn Associations' Cruise to Bermuda

Sure, we can ride!

Obviously Posing

Come on, Dan, you smile, too.

Preparing for a funeral, perhaps?

"Watch out, Hynds. You know how Jackson drives."

Gastonia was never like this!

"Ocean Monarch" Ready to sail—

Innocent!!

At last! Those tourist have gone!

Up the gangplank

Last to board

Glad to have you aboard.

Yarn Associations' Cruise to Bermuda

If you break 'em, you buy 'em.

Captain and a couple of the "Boys"

Well, Welsford!

This proves it to the folks at home.

"The current crop reports indicate a possible ....."

"It takes two to Tango"

"What's it like on deck, Doc."

"I told the Chef to put a little side-meat in with the turnips, and he said ....."

"It was nice, wasn't it?"

Welsford! Again?

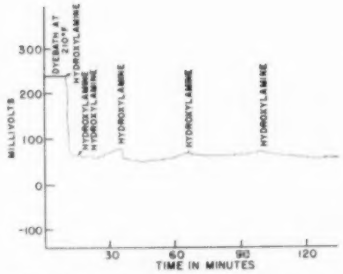
"Wonder if everything's all right at the mill?"

And back to Norfolk

(Continued from page 119)

dyebath is measured to learn whether or not sufficient reducing agent is present to reduce the cupric copper; second, reducing agent is added to the dyebath at such a rate to maintain that value of redox potential which indicates that the cupric copper has been reduced. Measurements are made with a pH meter equipped with a millivolt scale; any pH meter which has a millivolt scale is satisfactory.

It has been found that if hydroxylamine sulfate is used as the reducing agent for dyeing at or near the boil in a pH range of 2.5 to 3.5, satisfactory dyeings will result if the redox potential of the bath is maintained between 40 and 120 millivolts.



REDOX POTENTIAL control of a beck dyeing.

The rate of dyeing will be greater if the millivolt value is maintained near the lower limit; the rate is much less at 120 millivolts and is still less at higher values.

In one case by this method (see graph) the dye was added to the bath at 140 F, and the copper sulfate at 180 F, bath heated to 210 F, and a recorder connected to the pH meter. The dyebath gave a reading of 230 millivolts at this temperature with only the dye and copper sulfate in the bath. It was decided to maintain the millivolt reading of the bath between 60 and 70 during the dyeing.

A dilute solution of hydroxylamine sulfate was added at intervals and the millivolt reading dropped to the desired value with the first addition of the reducing agent. Each time the millivolt reading began to rise, it was brought down by an addition of hydroxylamine. A total of five additions were required over the two-hour dyeing period to keep the millivolt value within the desired range. The dyeing was satisfactory.

Other practical examples have been on Orlon rawstock dyed in a Morton machine, the dyeing of Orlon yarn a light yellow shade, and the dyeing of piece goods.

◆◆◆

Electrical Problems and their Remedies

(Continued from page 101)

ful in keeping such equipment clean.

The use of ball bearing motors has reduced the lubrication problem in our plants. We have also found that self-cleaning textile motors reduce our motor maintenance problems. We use a cleaning and lubrication schedule which tells our motor maintenance men exactly what they should be doing every hour, day, week, and month in the year.

In one plant we have kept a motor record on 1888 motors, and it has helped us determine our maintenance costs and permitted us to determine how much we can spend to avoid bearing or winding failures. We found from this record that 2.34% of our motors (2.75% of installed hp) had winding failures yearly. It also showed that 2.18% of our motors (3.6% installed hp) had bearing failures yearly.

We have, in the past, had considerable trouble with connectors pulling loose to expose conductors in the connections between starters and motors. This trouble occurred when using the metallic covered flexible connections. Crews had to work each week-end to repair the connectors. We now are using a flexible rubber-type cord between starters and motors and find them very good for the job.

One of our major recurring troubles is with grounds. Insulation on conductors breaks because of age, carelessness, haste, or high humidity. To avoid the deterioration of insulation in high humidity areas, we seal conduits in these areas with electrical sealing compounds or patented sealing bushings. It is also helpful to install conduit in the floor instead of under it so that temperature conditions are the same as those in the room, and condensation will be reduced.

Ground detectors are helpful devices in that they lead the maintenance man directly to the fault, and corrections can be made on the spot instead of putting the job off until a week-end.

Actually, one of our greatest problems is one to which we have not as yet found an answer. It is very hard to find good electricians who are interested in their work. We are still searching for the answer to this important problem.

Non-Cellulosic Man-Made Fiber Production at New High for Third Quarter

The textile recession which ran roughly from the fourth quarter of 1951 through the middle of 1952 and cut deeply into rayon and acetate output, had little effect on the non-cellulosic man-made fibers such as nylon, Orlon, Dacron, dynel, etc., according to a recent issue of the "Textile Organon."

Production of these newer fibers rose steadily through the first quarter of 1952 when a total of 63,900,000 pounds was produced, fell back slightly to 60,700,000 pounds in the second quarter, and then went up to a new high of 65,600,000 pounds in the third quarter.

to avoid shade

variation...

leave it to

*Levelene

When color uniformity is a "must," leading dyers and finishers simplify their problems by utilizing LEVELENE . . . A.A.P.'s 4-way dyehouse assistant. Performance-proved as a Leveling Agent — Penetrant — Dispersant — and active Stripping Catalyzer — LEVELENE may be used for preparing, dyeing or finishing.

You will find LEVELENE particularly well suited in minute quantities as a vat dyeing retardant—in the pigment pad or reduced methods—as well as for vat stripping.

For full details and data tailored to your individual requirements, consult our nearest branch. A.A.P. technicians will be happy to arrange a demonstration at your earliest convenience.

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*Reg. U.S. Pat. Off.

He's a great polo player—BUT

How does he compare with Al Parsells?

Al Parsells of the Meadow Brook Club, Westbury, Long Island, rated the first star to emerge in postwar polo, is today rated among the top players in the country.

In everything we do, we make comparisons . . . In Full-Fashioned Knitting, the one standard of comparison is the 30-section "Reading" Machine with a production of 14 to 16 dozen pairs of superior quality stockings in 8 hours. Simple and flexible in operation. 51-gauge, 60-gauge.

TEXTILE MACHINE WORKS • READING, PENNA.

The House in Order

"PRESIDENT Eisenhower and his Administration can not alone clean the Augean stables of Washington and set our national house in order, but they must have the hearty cooperation of all of us who believe intensely in the American system of life and government."

By RINGGOLD ARDEN

EXCLUSIVE

JUST 20 years ago, the man who was to become President of the United States in a few months, made a speech in which he stated that the economy of the United States was then mature. Its industrial plant had been built. Its inventions had been invented. There would be no further extraordinary progress, and our problem would be to settle down comfortably and see that the benefits of what we had to work with were so distributed that those who contributed little could get more.

We devoutly hope that all of these retrogressive ideas were swept out in the landslide that elected General Eisenhower as our next President, and that the General is coming into his high office filled with the knowledge that ours is not a mature economy, and that our best days can be ahead of us if we will once more give free rein to the system which built this nation up from a wilderness to a world power in a few generations.

This system has continued to advance our prosperity in spite of all that the tinkerers or socialists could do to hold it back. There is no telling what we can accomplish if those capable of accomplishment are given full opportunity to exercise their capabilities, and if the working people of the country can be freed from the old Luddite creed that the less work each man does, the more jobs there will be.

The textile industry has given spectacular refutation of the theory that our economy was mature in 1932, and that little future progress could be expected. At that time, rayon was just about our only textile synthetic, and it did not then seem to have a very promising future. Its production has increased about ten times since 1932, and all of the other notable synthetics have been created since that time. In laboratories today other synthetics are being developed, and no responsible person in the textile industry thinks that it is a phase of a mature economy, facing a stagnant future.

In 1932, this country was in the midst of a depression brought on by violent inflation made possible by the financial follies of the First World War. We are now in a violent inflation made possible by the even greater financial follies of the Second World War. The outgoing National Administration sought, at the conclusion of the war, to perpetuate these economic follies as settled National Policy. This policy decreed that full employment was a Government responsibility, and this responsibility could only be met by tremendous taxation, and additional inflation when taxation failed to cover the cost of Government support of things that its original designers never expected our Government to support.

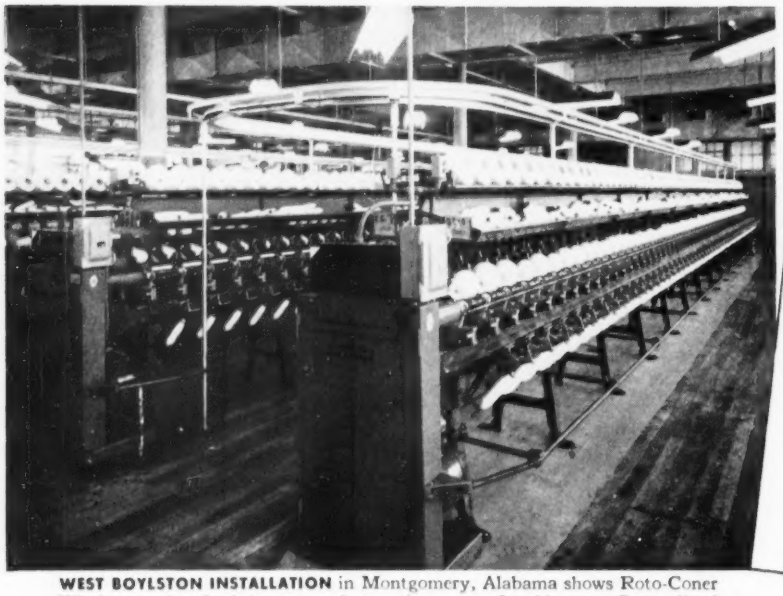
We have now had 20 years' experience with dabbling in "socialism on credit." A good many observers believe that the landslide proportions of the last election were partly repudiation of socialism. We hope so. Every free nation which has tried socialism has now repudiated it. Its glamorous promises have invariably failed to materialize, while its unglamorous taxes have not.

Winston Churchill wisely remarked that the vice of capitalism was the unequal distribution of its blessings; while the virtue of socialism was the equal distribution of its miseries. Socialism may be a good economic system for a mature economy, where the problem is simply to divide the national pie with reasonable fairness, but it is a miserable system for a country like ours which is constantly producing more and more pie, and interminably altering the method of its division.

The problem of reversing this socialistic trend and getting back to a state of economic sanity is going to tax the capacity of our new Government and our business leaders to the utmost. Maybe the problem is beyond our capacity to solve. Certainly, no individual owing a debt which could not be liquidated could consider himself prosperous; yet our nation with a debt which can not be liquidated is declared by most of our people to be in a highly prosperous condition.

Within the next year, about 60 billion dollars' worth of this national indebtedness will be due and payable, and must be refinanced, since it can not be paid. Any slow-down in business which prompted millions of people to cash billions of dollars' worth of these Government bonds would be disastrous, and the only way to prevent such a slowdown, without continuing inflation created by

Alabama mill reports exceptionally low maintenance cost with Roto-Coner® Winders



"Annual repair parts costs averaged less than ¼ of 1% of the original investment," states West Boylston Manufacturing Company, a Division of United Elastic Corporation.

WEST BOYLSTON INSTALLATION in Montgomery, Alabama shows Roto-Coner Winders used to both inspect and to package yarn for shipment. Streamlined surfaces of these winders are easy to clean, allowing little lint to collect. Roto-Coner Spindles start at the touch of a finger. Threading is simple, supply shelves close at hand.

When West Boylston installed 1200 spindles of Universal Roto-Coner Winders back in '46 and '47, they were told that the upkeep of these winding machines would be negligible.

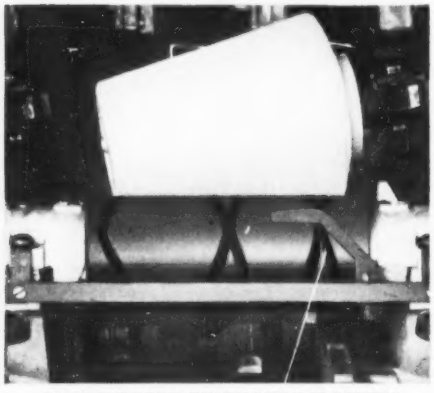
Now West Boylston is telling *us*.

Reports this large cotton yarn manufacturer, "Annual repair parts cost has averaged less than ¼ of 1% of the original investment!"

"What's more, there is not enough repair work on these and additional Roto-Coner Winders to keep one fixer busy! He fills out his time with additional duties."

This hearty testimonial is but one of many we receive from Roto-Coner users. This ultra-modern drum winding machine has no reciprocating parts whatever — no traverse cams that wear out, require greasing or adjustment.

Clean, quiet, easy to operate, the Universal Roto-Coner Winder will give you highest production at lowest maintenance cost in drum-winding your cotton, spun nylon, spun rayon, wool, worsted or blends.



ONLY THE ROTO-CONER HAS THE ROTARY TRAVERSE. Grooved roll acts as both driving drum and traverse guide.

EXCLUSIVE ROTARY TRAVERSE

Only the Roto-Coner Winder has the exclusive Universal Rotary Traverse. This one-piece driving drum and traverse guide eliminates the headache of frequent repairs. It lasts indefinitely and its lack of vibration contributes to low maintenance cost.

If you are not now using Universal Roto-Coner Winders, be sure to write for full details.

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UNIVERSAL WINDING COMPANY

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Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

Government props, is to encourage in every possible way the development of new industries and new means of employment. Such things are not developed by socialists, but by believers in a dynamic, competitive economy.

The textile industry, perhaps more than any other, is dependent for its health upon a constantly expanding economy. It is preeminently our most individualistic industry. Whereas in many other industries, two or three corporations will control from 50 to 75 per cent of the output, and control of the industry is therefore vested in a few persons, the textile industry has no dominant producers, and any effort to control it to cushion the ups and downs of business would involve several hundred executives getting together and deciding to agree on some common policy, which would probably land them all in jail under our Anti-Trust Laws.

The textile industry employs more persons than any other. The value of its product ranks second. Its products enter more intimately into the lives of the people than those of any other industry. From the time he enters the world until he leaves it, and every moment of the day while he lives, the citizen is constantly dependent on products of the textile industry. Its plants reach into every state, and upon its payrolls whole sections of the country depend. It is our oldest industry, and probably our most conservative.

It has, however, been very progressive in developing and accepting the new fibers and new manufacturing methods which have come about in the last 20 years. Its future is dependent on the continuing development of more and more attractive goods to offer its customers, and on national business stability to maintain the ranks of its customers.

The textile industry is one of the largest producers of taxes in the country, and yet it has probably fared worse with Government handouts than most other industries. What the Government buys from the textile industry is usually something in regular production which is bought at competitive prices. If the Government had to get cloth the way it gets airplanes and guns, a yard of osnaburg would probably cost five dollars. The textile industry as a whole should rejoice at the abandonment of a national policy of "prosperity by handout."

Everyone agrees that taxes are too high, but the out-going Administration has stoutly declared that there was no way of reducing them without whittling away at our defense program. We believe that if the federal Government could see that it got as good value for its money in every case as it gets when it buys textile products, that the cost of the defense program might be reduced from 25 to 50 per cent. This is a matter of policy and attitude.

For the past ten or 12 years, it has been the policy of the Government to spend defense funds not merely to get guns and planes and other needed material, but to provide employment for purely political reasons. Defense plants were frequently overstaffed from 100 to 400 per cent, simply because the distribution of money in a given locality brought rich political rewards by developing the "we never had it so good" attitude. We in the textile industry had to pay our share of the taxes for this sort of ruinous folly, but seldom got our share of the kickbacks.

We of the textile industry have

Southern Mills, Foreign Imports, Synthetics and Blends Vs. New England Textiles

One-time overseer Francis W. White, now president of American Woolen Company, gave the National Association of Woolen and Worsted Overseers little encouragement for their future in New England.

Speaking at the organization's 69th annual meeting in Boston, Mr. White flatly declared: "In the next four months some serious decisions must be made by this industry as to its continuance of operations in this area." Since 1949, 85 mills have either liquidated or headed South because they could no longer operate at a profit, he asserted.

The New England overseer can help stabilize the situation, according to Mr. White, by bringing recommendations for cost reducing changes to management's attention. One chance for survival lies with modernization of machinery, mill methods, and management—all leading to a reduction of unit costs.

Union organization of southern labor offers small hope in solving North-South differentials. Progress in organization of southern operatives is stalled because of CIO and AF of L factionalism, so no such easy solution of New England's textile problem can be expected in the immediate future, he said. Instead, Mr. White strongly urged that textile employees realize that wages are costs that the customer must be willing to pay and that reducing costs means either cutting present wages or giving more work for such wages.

"Unless we can price woolen or worsted fabrics lower than they are now priced, we shall continue to lose business to southern mills, to foreign imports, and to synthetics and blends," he advised.

One of New England's troubles stems from the scores of mills which have entered the synthetics and blends market to meet consumer demand, and in so doing, have broadened their competition with non-woolen and worsted mills whose locations give them a distinct edge. Nevertheless, growth of this part of the business will be limited only by the shortage of synthetic fibers and their market capacity.

A glimmer of hope depends upon the future attitude of New England's textile communities. The best way in which this can be manifested is by tax concessions of the type freely given to new plants. A plea for help, not sabotage, from government was voiced by Mr. White.

Celanese* Acetate

the fiber with the *well-balanced* performance characteristics

In an age of specialization, it is natural enough that many new textile fibers are developed, specifically to excel in some one special way.

Yet for most applications—for most end uses—the best fabrics require high *average* performance in many respects.

That is the essence of acetate's success in the textile field. It is an excellent fiber in each respect. For instance, acetate has:

- **good dimensional stability**
- **wonderful hand, fine loft**
- **cross dyeing versatility**
- **excellent wrinkle recovery**
- **resistance to moths and mildew**
- **thermoplasticity for pleats and moires**
- **uniformly good supply**
- **a very competitive price**

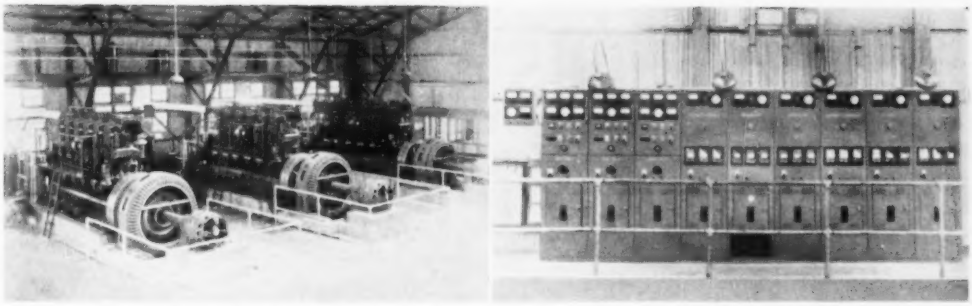
And acetate's outstanding asset . . . its ability to enhance the beauty of any fabric in which it is used.

So in designing new fabrics and planning production—whether it be shantung type suitings, light weight cords, or dress crepes—consider all the performance angles, and see if acetate doesn't come closest to filling the bill.

Celanese Corporation of America, New York 16.

Celanese*

*Reg. U. S. Pat. Off. **ACETATE, one of the world's great textile fibers**



Power for operation of the mill is developed by three Diesel-engine-driven generators (left). Control panel is shown at right.

Philippine Yarn Mill from Jap Salvage

A new spinning mill, created largely from residue of the Japanese occupation, seems likely to have a distinct effect on the industrial development of the Philippine Islands.

Located near Narvacan, Ilocos Sur, on a site of 10 hectares (approximately 25 acres), the mill is the only one of its kind in the Philippines outside of Manila. Built by the government development agency, its purpose is primarily to produce yarns to supply the needs of home weavers and makers of fish nets in the Ilocos and Northern Luzon provinces. Excess capacity, however, will permit the mill to supply other regions.

The major portion of the materials used in the mill were salvaged from mixed crated and loose pieces of old cotton mill machinery dumped near Manila by the Japanese during the World War II occupation. Early in 1949, the National Development Co. began collecting, sorting, and cataloging the scattered parts and units. The piles of machinery were then transported to Narvacan, where the mill was ready for test runs in 1951.

Three Atlas Diesel engines, each of 350 hp, 360 rpm, manufactured by the National Supply Co., Springfield, Ohio, were installed as the basis of a modern power plant. The entire power plant is self-contained.

The mill equipment includes: 80 sets, carding machines, one delivery per set; 6 sets, drawing machines, 8 deliveries per set; 12 sets, roving machines, 122 spindles per set; 44 sets, spinning machines, 420 spindles per set; 1 set, opening and picking machines, one delivery per set; 20 sets, skein winders, 30 deliveries per set; 2 sets, cone winding machines, 100 deliveries per set. The cone winding machines are of American manufacture. All of the others were manufactured by various Japanese concerns.

always believed in a free competitive economy, and have always operated according to its rules as nearly as the Government would permit us to. Most of us believe that this is the only wise and fruitful policy for producing a prosperity which can be solid and continuing. Very few of us believe that such a prosperity can be achieved or maintained by cutting the value of our money in half every ten years or so, and telling everybody, "Look how much more money you have than you did ten years ago."

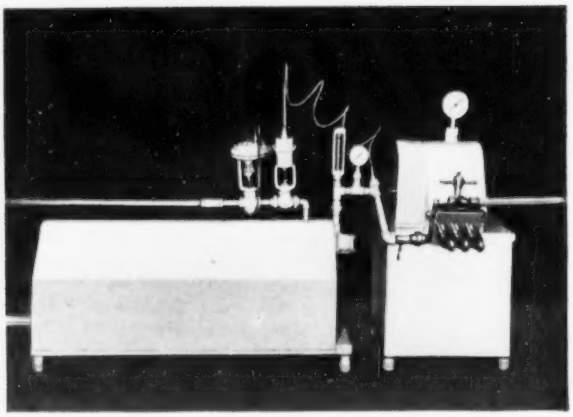
America was built out of profits. Out of what the farmer could save from one crop to invest in producing a bigger and better crop. Out of what the little manufacturer could save to expand his plant. Out of what the merchant could lay aside to build a bigger and better store.

For 20 years our Government has assumed the attitude that these profits should properly be turned over to it for adventures in developing our economy. That is a socialist—not an American—system. The original American system was to leave practically all of the profits with the man shrewd enough to make them, so that he was able to plow these profits back into other profit-making activities.

The people who made the most money usually created the most for the public to enjoy. It has always been hard for any man to keep more than a small fraction of the money which passed through his hands. If he kept a lot of money, it meant that he had created a lot of value. The socialists say this is wrong, but the American business man can point to a higher standard of living created in this country by his methods of operation than can be found in any other place on earth.

Most of us in the textile industry hope that there will be a new Governmental climate, more conducive to the production of new ideas and new goods than the old one which fostered division rather than multiplication. President Eisenhower and his Administration can not alone clean the Augean stables of Washington and set our national house in order, but they must have the hearty cooperation of all of us who believe intensely in the American system of life and government.

Continuous size preparation and increased loom efficiency with the new



Scott & Williams Hydropulse

What the Hydropulse is: like many important developments, this unit is basically quite simple in design. It consists of a heat exchanger for heating cold starch mixes to the swelling point, and a high pressure homogenizer to convert the mixes into finished size of controlled viscosity.

What it can do for YOU: the Hydropulse will give you *continuous size preparation*. Costly batch methods have been completely eliminated. You get fresh size at the push of a button.

In addition to increased weaving efficiency you get: savings on starch costs, savings on steam costs and better process control. You can be sure of all these benefits because the Hydropulse is specifically designed for textile use by a company that has specialized in textile machinery for over 80 years... Scott & Williams, Inc.

☆

For more information: write today to one of the addresses below.

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Southern Sales and Service:

SOUTHERN SIZING COMPANY
EAST POINT, GEORGIA

Georgia Mill Weaving Practices

(Report of technical discussion meeting)

Staff Report

A NUMBER of weave room practices in Georgia mills is reflected in this report of the second half of the discussion meeting held in Atlanta last October by the Textile Operating Executives of Georgia.

Report of the first half of the meeting, which dealt with slasher room techniques, appeared in the December, 1952, issue of TEXTILE INDUSTRIES (beginning on page 139).

Moving Looms. Written answers discussing methods employed in moving looms from one floor level to another as well as on one floor level included the following:

Mill D. Raise loom with jacks, place on 4" x 6" skids, place loom and skids on special dolly furnished by loom manufacturer. Roll to elevator or position and unload.

Mill E. We made skids out of 6" channel iron 80" long to move 36" and 40" looms. We turned the flange upward and bolted two 5" casters on one end and one 4" caster on the other end of the flat face of the channel iron. The casters were set so they would be nearly under the loom sides when the loom was loaded on skids. About 10" was cut out of one flange on each end of the skid, and a slot was made the length of this cutout in the center of the face of the channel iron to take a 7/16" loom bolt which fastens the loom feet to the skid. The 10" cutouts accommodate different width looms.

A garage type jack is used to load the loom on skids. Head gear end is loaded first on end equipped with double casters. In unloading, the procedure is reversed to prevent the loom from tipping over.

J. A. FIFE, superintendent of Scottdale (Ga.) Mills led the discussion on weaving.

Wearing Topics

- Methods for Moving Looms
- Experience with Endless Check Straps
- Temple Rolls for Synthetics
- Tight Selvages on Rayon
- Life of Harness Frames
- Vibrating Whip Rolls
- Takeup Roll Coverings
- Waste Control
- Shuttles
- Dobby Head Maintenance
- Shearing Machine Operation
- Selecting and Training Loom Fixers
- Loom Fixing Practices
- Tying Warps with Portable Machines
- Jerked-In Filling on Multiple Box End

It takes two minutes to load and unload a loom. By using this method, the loom is held rigid, and it is not necessary to take the warp off the loom. Three men can load and move a loom with ease. We have moved several hundred looms by this method, going from room to room or from one level to another.

Mill H. We moved 276 E-Model looms from the first-floor to the second floor by this method:

Flooring was removed from a 7' x 9' area in a corner of the second floor room. An I-beam was bolted to the ceiling directly above the opening, and a one-ton electric hoist was mounted on the I-beam.

A carriage, made of iron pipe and mounted on swivel casters, was used to move the looms to the hoist. The loom was lifted from the floor and suspended from the carriage by a ratchet-type chain hoist, and the hoist chain was hooked around the center horn of each loom side. The hoist lifting chain was hooked to the top of the carriage which, with the loom, was lifted to the second floor. The hoist was moved along the I-beam to solid flooring where the carriage was lowered and pushed to the correct position. The loom was then placed on the floor and the carriage returned to the first floor for another loom.

These looms were moved without dismantling and without removing the warp beam. The average weight of each loom was 2,000 lb. Four looms per hour on an average were taken out of production, moved, and placed into position in the new room.

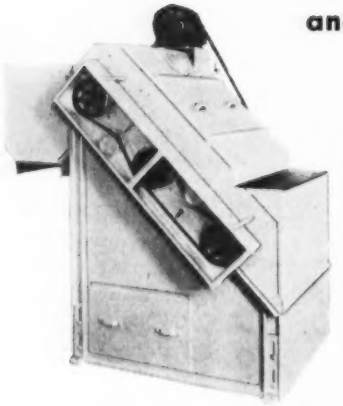
We have two trucks made of channel iron mounted on swivel casters which we use to move looms from one position to another in the same room. One side of the loom is lifted from the floor, and the legs are lowered into the trough formed by the channel iron.

A HAPPY AND PROSPEROUS NEW YEAR . . .

to our friends and customers in the Textile Industry.

Thank you for the orders in 1952 for the Superior Cleaner and the Superior Pre-opener and Cleaner and for your cooperation in the delivery and installation of these machines.

Our business is cleaner cotton because cleaner cotton means better yarn and cloth.



THE SUPERIOR PRE-OPENER AND CLEANER

FOR USE IN FEED HOPPERS AND FEED APRONS DELIVERING TO REGULAR CLEANING LINES

Completely opens and pre-cleans the small amount of cotton delivered by each hopper in battery so that machines in regular cleaning lines do more cleaning and cause less staple breakage.

Occupies 3'-2" space between hoppers and side frame of apron.

The Centrif-Air Machine Co., *Inc.*

ENGINEERS *(Licensees)* **MANUFACTURERS**

ATLANTA, GEORGIA

No fasteners are needed because the legs cannot slide out of the trough. There are four casters per truck to prevent it from turning over. The looms are moved with the warp, filling, and cloth intact.

Mill I. We use two chain hoists to swing looms off the floor about 18". Then a special wagon is rolled under the looms. Eight pins are used to hold the looms in place. The wagon has four 12" wheels, and the axles are tied together with two pieces of flat iron, criss-crossed under the wagon. The flat iron is connected to each axle with a swivel so that the wagon can be turned at any angle to get around posts, corners, and doors. To unload the wagon, we reverse the procedure used in loading.

Mill O. We use an elevator and a ramp to move looms from one floor to another. We made a pair of trucks from 6" channel iron 47" long and fastened a piece of hardwood in the channel so the loom wouldn't slip. Ball bearings and 4" wheels were employed on three axles. The center axle is ½" lower than the front and back axles to permit easy maneuvering. The looms were jacked up and a truck placed under front and back girts. Looms were easy to handle either with warp and cloth on them or empty.

Mill T. When moving looms from one level to another, we use two 4 x 4 timbers the length of the loom. Looms are bolted to timbers, then one end is raised, and dollies are put about midway of the loom, one under each timber. The looms are then moved by hand.

When moving looms on the same floor level, we use one half of an old shuttle under each loom foot, thereby making looms easy to slide on floor without damage to loom or floor.

Mill W. We have a frame on ball-bearing, rubber-tired wheels large enough to pass over entire loom with a ratchet hoist on each end. The frame is pushed over, the loom chain attached, and loom hoisted up six inches. Loom is then carried to new location. Two people can move a loom from 100 to 200 feet and put it in place in approximately 10 minutes.

The same method is used to move looms from one floor to another except loom is rolled onto elevator and carried to other floor. However, we have an eye bolt in our frame, and the loom could be hoisted through a hole in the floor.

HAT WINNERS!

Those who registered at the meeting had four chances to win a hat. Four names were drawn at random, and the winners of four new hats were: **Charles R. Bollin,** John P. King Mfg. Co., Augusta, Ga.; **B. V. White, Jr.,** Pacolet Mfg. Co., New Holland, Ga.; **D. M. Veal, Jr,** Fulton Bag and Cotton Mills, Atlanta, Ga.; and **S. L. Estes,** Columbus Mfg. Co., Columbus, Ga.

Endless Check Straps. Five mills reported experience with various brands of endless check straps made of different materials. In one instance multiple strand rubber straps were used as well as single strand leather with an attendant reduction in check strap costs. Another mill had difficulty adjusting rubberized fabric straps and leather straps. A third answer to the question stated that all kinds of endless straps were tried but more pickers were used, little more running time was obtained, and the endless straps required more attention.

Endless rubber straps and endless leather straps stretched and were difficult to adjust in another mill. This mill used more pickers, had extra wear on shuttles, and overall loom performance was not as good as with conventional check straps.

The final answer to this question reported experience with glued leather, loop-type leather, and sectional rubberized endless check straps. The loop type leather strap was preferred because it was easiest to apply; however, all of the endless straps were credited with longer life of pickers, longer life of picker sticks, longer life of shuttles, and better overall loom performance.

Temple Rolls for Synthetics. Limited experience was reported with synthetic or rubber temple rolls on rayon or nylon fabrics. Two mills answered the question as follows:

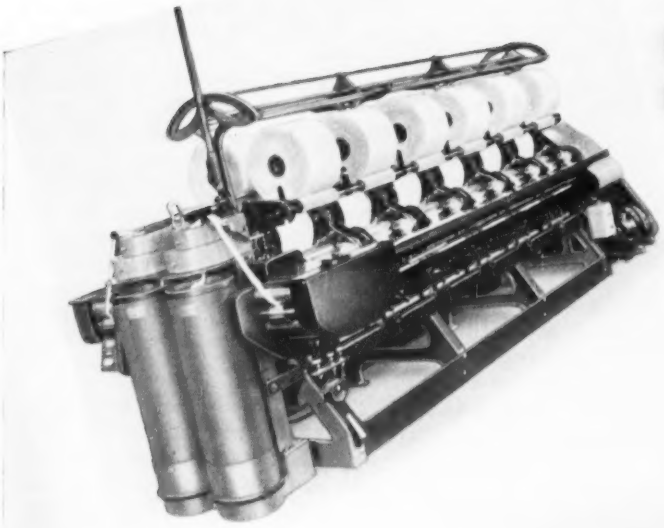
Mill F. On heavy rayon yarn fabrics, we find that a rubber temple roll will not hold a fabric. Our experience indicates that the wood roll with short steel points is most successful.

Mill N. Our experience has been limited with synthetic or rubber temple rolls. In fact, we were never able to get them to hold.

Tight Selvages on Rayon. Commenting on tight selvages on 100% viscose rayons, a mill man said that he had alleviated the problem somewhat by redrawing in the reed. He suggested drawing the first twelve ends in the body of the warp two per dent and the remainder, three per dent.

Life of Harness Frames

Mill No.	Life of Frames	Frame Length	No. of Lockhooks	Fabric	Weave Room Humidity
E	8 yr	46	4	69 x 48 sheet 23s warp 27s fill	82%
F	8 yr	—	—	—	—
L	10 yr	30	4	—	—
N	15 yr	45 x 86	2-4	20-176 picks 20-96 sley 2.7s-28s warp	85%
O	10 yr	46-61	4-8	sheeting	80-84%
T	10 yr	36	4	32-64 picks 62-87 sley 11.5-20s filling 14-16s warp	75-85%
U	18 mo	—	—	—	85%



This SACO-LOWELL COMBER

will pay for itself in approximately

3 YEARS

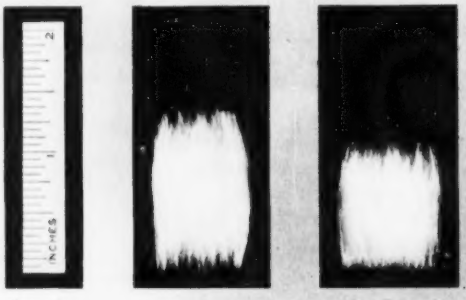
BASED ON THE CURRENT PRICE OF COTTON, THE RECOVERY, EXCLUSIVE WITH NEW SACO-LOWELL COMBERS, OF AN ADDED 13% OF LONG STAPLE FROM THE NOIL, CREATES A SAVING WHICH WILL ANNUALLY RETURN 33⅓% OF THE INVESTMENT MADE FOR NEW SACO-LOWELL COMBERS.

More than 90 mills have installed Saco-Lowell Combers — you cannot afford to operate old, obsolete combing processes when new equipment will pay for itself in 3 years. Join the ranks of the "90" — switch now to modern Saco-Lowell Combing Equipment.

2 REVEALING FIBER SORTINGS

A Saco-Lowell Comber and Comber "C" were being tested simultaneously in a mill using 1⅜" American cotton. The combers were adjusted to take out 17% waste. Sample No. 1, from Comber "C", contains 23.8% fiber over 1" long, as compared with 10.7% in Sample No. 2, from the Saco-Lowell Comber.

Regardless of the cost of cotton, the recovery of an additional 13.1% spinnable fiber has a definite effect on the cost of the yarn. It is a saving which no mill operating combers can afford to overlook.



Our engineers are available for consultation without obligation. In addition, complete catalog information is available for the asking.

SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.

SALES OFFICES: CHARLOTTE • GREENVILLE • ATLANTA

Data on Shuttles and Filling Quills

Mill No.	Clearance Between Quilled Yarn & Shuttle (inches)	Shuttle Opening (inches)	Dia. of Full Quill (inches)	Dia. of Spin Ring (inches)	Yarn Counts	Type Loom	Loom Width (inches)	Limit Yarn Ct. on 8¾" Quill
D	1/32 - 1/16	19/16-17/16	17/16-13/8	19/16	5-26	E XP XD	44 60 44	22
E	3/32	1 15/32	1 9/32	1 7/16	27	E	40	30
F	3/32	1 7/16	1 1/4	1 1/2	13.5	C-4	48	—
I	1/32	1 7/16	1 3/8	1 5/8	3.5-16	E D	46-52 62-72	23
L-1	3/64	1 15/32	1 3/8	1 7/8	5	E	40	—
N	1/16	1 7/16	1 5/16	1 5/8	20-26	Stafford	40	—
O	1/16	1 9/16	1 3/8	1 5/8	13-17	X-2	40	—
Q	1/32	1 1/2	1 15/32	1 5/8	20	XP	40	—
R	1/16	1 5/8	1 1/2	—	10.4, 15.2, 17.2	XP	60-64	—
T	1/16	1 3/8	1 1/4	1 3/8	5-20	Draper	32	20
U	1/16	1 17/32	1 13/32	1 5/8	4-12	D O	32-64 76-100	—
W	1/32 - 1/16	—	—	—	—	—	—	—

Vibrating Whip Rolls. Vibrating whip rolls were tried on twills, sheetings, drapery fabrics, industrial cloths, sail cloths, sateens, chafers, ducks, osnaburgs, towels, tickings, and drills. In one instance loom efficiency and cloth quality improved considerably on heavy pick goods upon returning to use of dead roll. Several of those reporting had been using vibrating rolls for some time but had not compared results with conventional whip rolls.

Other notations were as follows: Tests on conventional and vibrating rolls on sheetings showed no difference in efficiency. Also, there was no significant difference in quality. Vibrating roll relieves tension on warp threads on beat up—an important factor on goods with a heavy sley or heavy size. Vibrating roll is good on heavy goods and cloth with close picks. Dead roll is best on light drills, twills, and other fabrics. Higher efficiency of stop motion when vibrating roll is used. Only satisfactory on light-weight fabrics. Vibrating whip roll gives better let-off, and a smoother and better face on cloth.

Takeup Roll Coverings. Eight mills reported using metallized takeup rolls, and no metallized roll failures were revealed. One mill had trouble with heavy duck being damaged by abrasion on metallized rolls; however, this was attributed to the fact that the cloth could not be run tight enough on the loom.

Three mills applied tin fillet in the mill shop, and one of these employed a special operator on part time to do the job. The remainder had the loom fixer apply tin fillet at the loom.

Other fillets used by those answering the question included: rubber on some fabrics (not specified); emery fillet and rubber fillet for soft fabrics; rubber for rayons. In some instances rubber fillet was applied at the loom similar to the way tin fillet was applied. Several mills apply rubber covering by using glue to secure the rubber fillet to the roll.

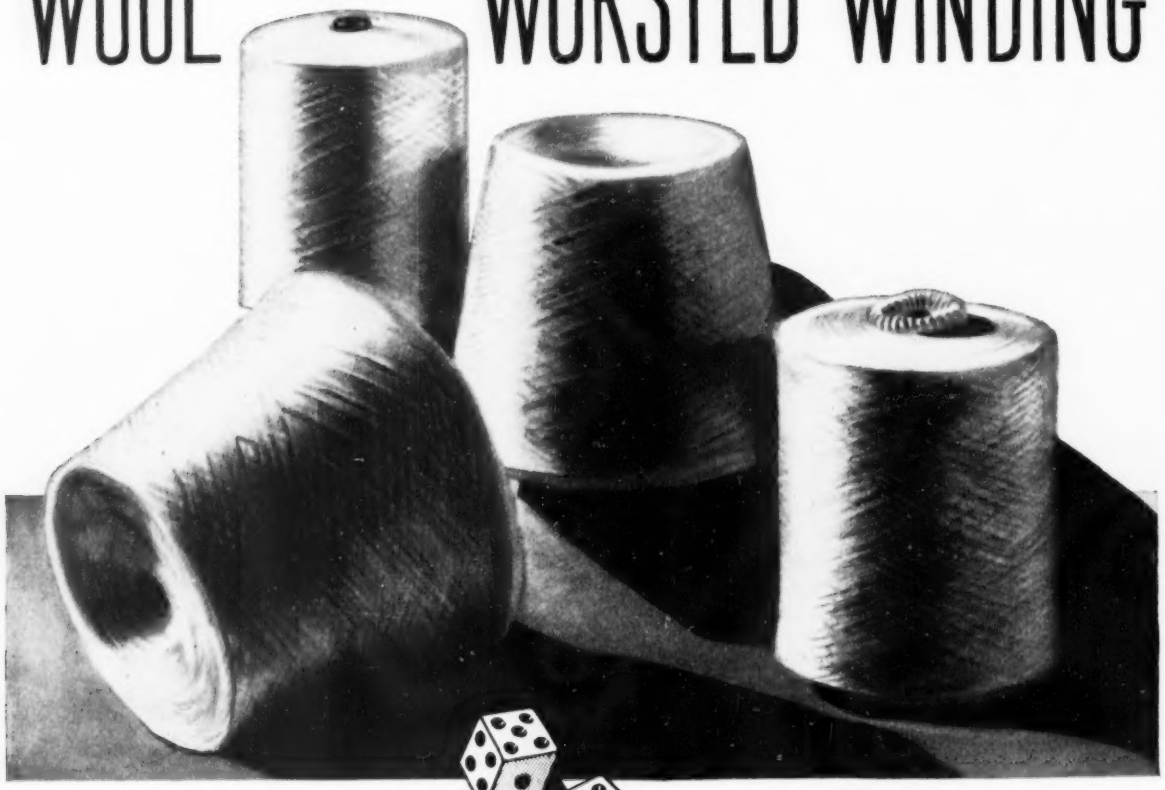
Waste Control. The most common methods of handling and controlling rag waste are to collect, check, and record rag waste, send rags to the cloth room, and issue by requisition or otherwise for cleaning. In one mill loom fixers were issued rental shop towels, and in this instance rag waste was eliminated.

Oily filling is recorded on each shift, run off on winder, and twisted into sewing thread for baling. Some mills wind off the oily filling and sell it as yarn waste; others use it for starting new warps, tying-in, and pulling knots through.

Yarn is recovered from broken quills by rewinding for use in

ATTENDANCE WAS GOOD as usual as evidenced by this photo of only a part of the auditorium.

WOOL AND WORSTED WINDING

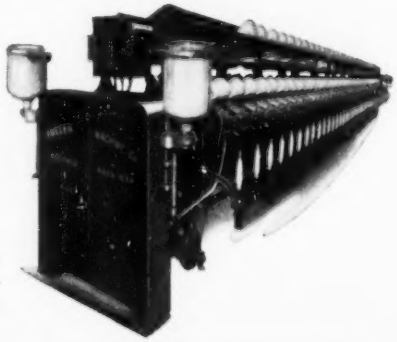


It's a NATURAL for the FOSTER MODEL 102

The Foster Model 102 is the most suitable machine on the market for the winding of wool and worsted yarns. Here's why:

1. A 7" traverse package, if desired.
2. High winding speeds (up to 700 y.p.m.).
3. Brackets can be supplied for holding any type cop or bobbin in correct position for maximum winding efficiency.
4. Standard traverse mechanism will handle even hard twist worsted yarns with maximum resistance to cutting action.
5. Winds soft twist or hard twist yarns, any count or type, on warping cones, knitting cones, parallel tubes, dye packages or twister packages — any taper, and 9 angles of wind from 9° to 18°.
6. Several types of self threading tension and slub catching attachments promote quick threading and automatic inspection.
7. Repair costs run as low as $3.50 per year per 100 spindle machine.
8. Empty bobbin conveyor BELOW BOBBIN pins eliminates lifting because conveyor discharges into standard size truck.
9. One side of the machine can wind tubes, the other cones, if desired.

Send for Bulletin A-95 for complete data.



FOSTER MACHINE CO.

WESTFIELD, MASSACHUSETTS

Southern office, Johnston Bldg., Charlotte, N. C. — Canadian Representative, Ross Whitehead & Co., Ltd., 1475 Mountain St., Montreal, Que. — European Representative, Muschamp Taylor, Ltd., Ashton-under-Lyne, England.

Suggestions for Tying Warps on B-C Portable Machines

(1) Apply gummed paper one yard from end at slasher to keep warp straight for tying.

(2) Brush warp out straight and take not less than three hands for brushing on 40" warp—eight hands on 100" warp.

(3) Let back on loom so that warp can be combed straight from drop wires.

(4) Get an end-to-end lease on the pattern before starting to tie the ends.

(5) Keep tying-in machine in good condition.

(6) Use right selector for yarn being tied.

(7) Keep proper tension on selector.

(8) Maintain correct yarn tension on warp.

weaving or for baling thread, depending upon condition of the yarn. In some instances it is weighed, recorded, and sold as waste.

Dobby Head Maintenance. Those who had occasion to change to cam operated looms, leaving the dobby heads in place, stated that a thorough oiling was all that was necessary to prevent rust on idle heads, although blowing off now and then helped keep them clean and serviceable. One mill covered the dobby heads with cloth and applied a rust preventive.

Shearing Machine Operation. Measures given for starting a roll without wrinkles or without pulling the cloth in width were as follows:

Use air guide and slack selvage eliminator. First run cloth through brusher to give enough tension to keep from wrinkling, but not enough to pull the fabric in width. Thread cloth properly through tension rods, have beam roller properly adjusted with fell roller, and exercise care in starting cloth on beam roller.

Measures suggested to avoid slack selvage trouble and cut cloth were as follows: Use slack selvage eliminator on shearer. Use knurled cones for tension at the selvages. Install rubber roll type expander bar on shearers. Put drag weight on roll, and pull cloth to right width. Inspect selvages on looms to see that they are not made too loose.

Nine mills answered questions on shearing machine maintenance and cleaning. Cleaning schedules ranged from four hours to two days. Cleaning usually included blowing-off. Oiling schedules varied from daily in two instances to weekly for the remainder of those reporting. Shearers were greased at intervals ranging from once each week to once each month, and overhauling was done anywhere from three months to 12 months.

Selecting and Training Loom Fixers. Loom fixers in Georgia mills are usually chosen from the ranks of experienced weavers who are young, reliable, ambitious, willing to do the job right, and among the upper two-thirds of vocational classes (where vocational classes are conducted). The method of training loom fixers usually includes training in a vocational or industrial school, after which the prospective fixer works with the overhauler and an experienced loom fixer until he is ready to assume the responsibility of a section of looms. Time spent with an experienced fixer varies from two weeks in some mills to six months in others.

Loom Fixing Practices. Everyone answering the question agreed that gauges are practical for use by loom fixers in setting looms. Also, it was agreed that it is possible to establish a setting for harness cams for putting the best face on plain weave fabrics; however, it was mentioned that the whip roll and sand roll should be properly adjusted for face after setting harness cams.

Out of 13 mills nine had the loom fixer set the thread cutters, and four had a special man to do the job. Those who had the loom fixer to care for thread cutters did so to fix responsibility to one person and to be certain that several men in the plant have experience fixing thread cutters. Also, one mill stated that fixers did a better job of maintaining cutters. The reasons cited for having a special man fix thread cutters in some mills were as follows: Thread cutters require so much attention that too much of the loom fixer's time would be consumed. Loom fixers let cutters get in bad condition, and a special man keeps them in good condition.

Suggestions to Prevent Jerked-In Filling on Multiple-Box End of Looms

(1) Move selvage of cloth as far as possible from the magazine end of the loom while using adjustable beam heads.

(2) Use separating wires between the filling by working them from the dobby head or from the box.

(3) Keep picking motion set and timed properly.

(4) Keep good grooves and bristles (or fur) in the shuttles.

(5) Set meter cam to check shuttle without having binder too tight, and wrap mouthpiece with flannel or slasher cloth to hold filling while other shuttles are not running.

(6) Place a piece of card clothing on the lay at end of race plate and on front side of lay with points turned up to hold filling not being used. Knee on wire should point away from box mouth.

Always Uniform

Starch, as well as golf balls, requires precision control in every manufacturing step to maintain unvarying high quality.

That's why over the years Victor Mill Starch has become known far and wide as "The Weaver's Friend."

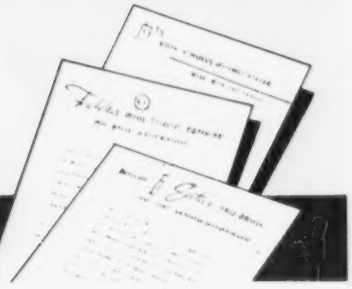
Victor provides better penetration, stronger warps, smoother surface, less shedding, fewer slashing problems. Rely on it . . . and the Keever man who serves you.

TEXTILE SALES DIVISION
1200 WOODSIDE BUILDING
GREENVILLE, SOUTH CAROLINA
Charles C. Switzer, Manager

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO

Corn, wheat and other grain products for industry since 1898

HOW OTHER MEN MANAGE



• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Short Cuts • Comments from Readers •

Reader Tells Experience in Running Staple Nylon

EDITOR TEXTILE INDUSTRIES:

When we first started to process nylon staple on the conventional drawing frame on the cotton system, we had a lot of difficulty in getting the drawn sliver to pass through the coiler plate. The sliver passed through satisfactorily for a few yards and then it stopped. The sliver accumulated between the calender rolls and the top of the coiler plate. No amount of cleaning of the passage of the plate seemed to make the least difference.

We came to the conclusion that the sliver needed just a little assistance to help it get through, so we put a piece of paper on the floor and let the sliver run onto that instead of into a can. Our reasoning in this instance was that the weight of the sliver suspended would give enough pull to get it through. This idea worked so we put springs in the cans and about two pounds of cotton sliver—enough to make the cotton sliver pass upward against the underside of the coiler plate and thus drag the nylon sliver through.

We have had no trouble with this difficulty since, because when we doff full cans we always take about a pound of sliver out of the completed can to start the empty one.

Another difficulty we had was front roll laps at the long draft roving frame. The static seemed to attract the roving to the rolls. Raising the per cent humidity from 50 to 70 helped but we still had far too many laps. To get over this we brought the top front rolls forward about $\frac{1}{4}$" and let them lean over the front ones slightly. The idea was to get the twist to run as close to the nip of the rolls as possible. This cut the roll laps in half, but we were still not satisfied. After some experimenting with tension gears, we found the laps were down to reasonable proportions when the roving between the front rolls and the flyer tip was taut. So now we always run with tight roving; it may not be technically correct, but it works.

We still have difficulty with "crackers" on the ring frame when running 100% nylon staple. These are particularly prevalent every time the machine is stopped and the tension in the yarn is reduced. We find it necessary to unwind these crackers by hand before starting the frame again. We do this by holding the travelers still on the ring with one hand and turning the bobbin with the other. Perhaps some of your readers know how to prevent these crackers on 100% nylon staple.

"Crackers"

Crackers are a constant source of anxiety to the ring frame overseer in the same way as snarls are to the mule spinner. They are made in ring spinning, never being found in a mule spun yarn, and they are more prevalent when a yarn is spun to its economic limit.

Crackers are often mistaken for slubs which they resemble at first glance. The "slub" however will

KINK CONTEST!

$100 will be awarded the winner.
Send your entry now!

This contest ends March 15, 1953.

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, March 15, 1953.

► No limit to the number of entries an individual may submit in any one contest.

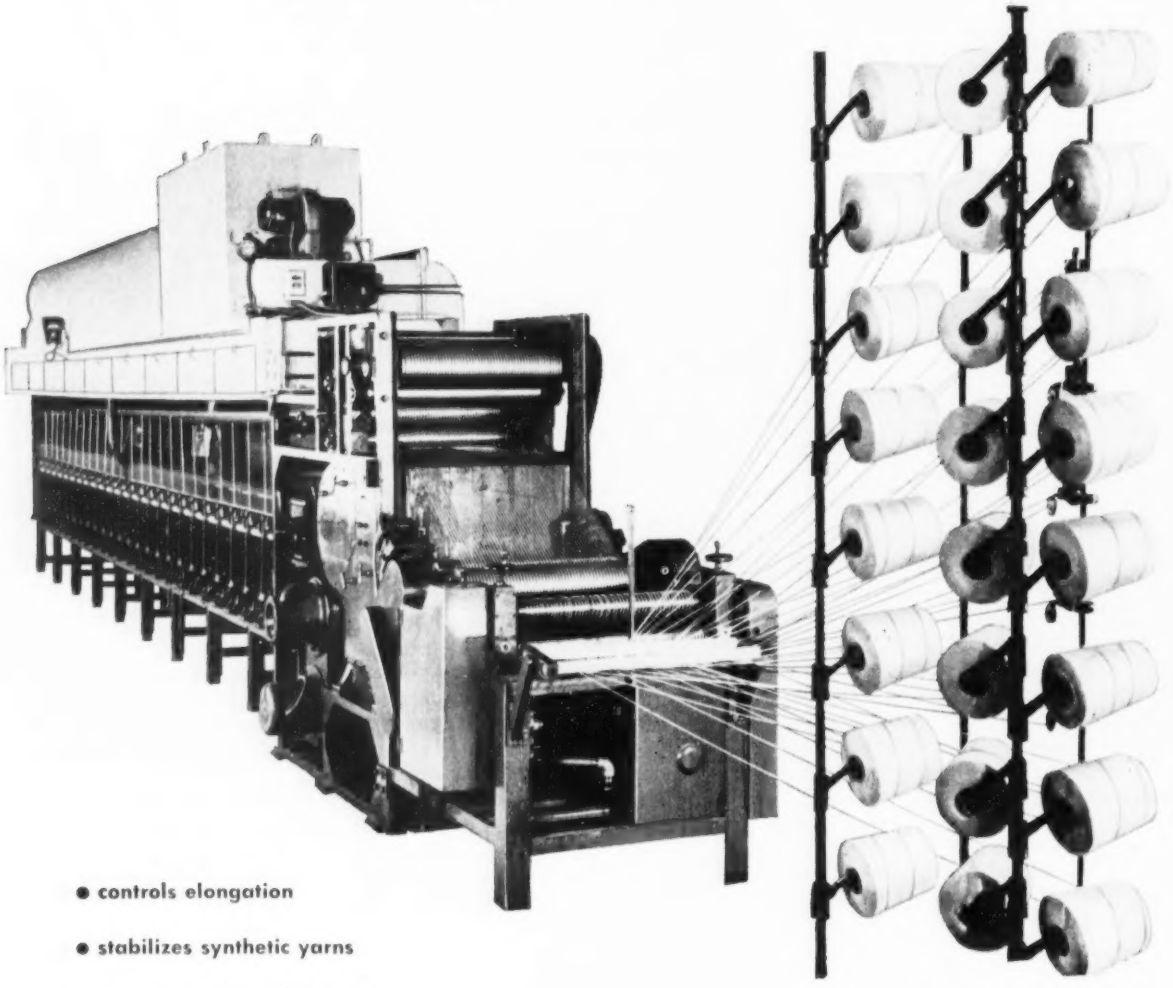
► All entries paid for upon acceptance—no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously.

Send your contest entry to:

Editor TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

KIDDE YARN PROCESSING MACHINE
makes synthetic yarns useable industrially



- controls elongation
- stabilizes synthetic yarns
- controls residual shrinkage
- makes synthetics compatible with rubber and other materials by coating or impregnation

Kidde's amazing processing machine takes 50 ends of yarn from a creel, passes them through an impregnating bath, stretches them under controlled tension, oven-dries them and winds them in 50 uniform packages. It does all this continuously on a 3-shift basis! The result is a stronger, more stable synthetic yarn that's right for industrial use. To prove it, the Kidde yarn processing machine has a record of over 5 years of successful industrial use in making hose cord, tire cord, V-belts, etc. Write today for full information.

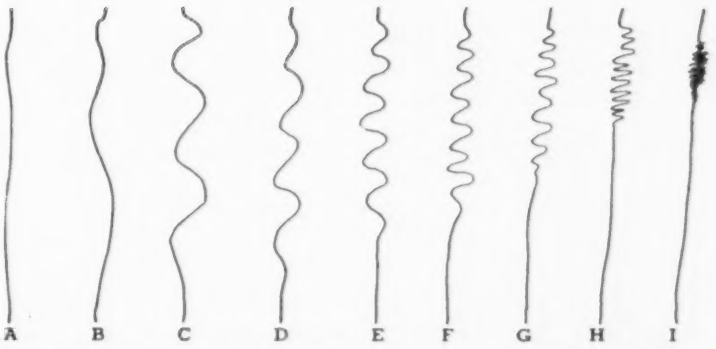
Kidde

Walter Kidde & Company, Inc.
190 Main Street, Belleville 9, N. J.

disappear if the cracker is subjected to sufficient tension. To do this, grasp the yarn at either side of the cracker and exert a gradually increasing pull. If this is done in a quiet room and the yarn is sufficiently coarse, a distinct crackling sound will be heard. It is from this sound the fault derives its name.

Roll settings too close at the ring frame will cause crackers. The more twist inserted, the greater the tendency to produce crackers. Nylon staple seems to be particularly susceptible to this fault as the twist is increased. Light travelers or anything else which reduces yarn tension during spinning will assist the formation of crackers. I have often observed that there are many more crackers to be found on the last few layers of a warp bobbin than there are on the first few layers. The tension when winding on the bare bobbin no doubt resists what may be termed the yarn's natural tendency to run into crackers.

Crackers are formed at the nip of the front line of rolls. As the yarn emerges from the rolls it immediately starts to twist up upon itself, and winding onto the bobbin stops momentarily until sufficient yarn has been delivered by the rolls to form the cracker. Then the yarn tension overcomes the natural tendency to form crackers, and winding commences again. The stopping and starting of winding can be distinctly seen. Sometimes the extra weight of the cracker causes the yarn to balloon excessively and the end gets caught either at the wrong side of the separators or on the pig tail of the thread guide.



FORMATION OF CRACKERS is simple. Consider the line (A) to represent a perfectly elastic length of yarn which was previously a cracker and stretched out and held under tension. As the tension is released imagine the yarn to form large waves at first, then circles about the axis of the original position. The circles gradually become smaller and tighter until we have the original cracker at (D). The appearance of a cracker in the relaxed state is similar to a slub. When slight tension is exerted on a cracker, it appears similar to a small coil spring.

CONTRIBUTOR No. 8522
(Canada)

Picker Lap Variation and the ITT Tester

EDITOR TEXTILE INDUSTRIES:

You carried an announcement some time ago about the new electronic lap tester developed by the Institute of Textile Technology at Charlottesville, Virginia. This testing apparatus when used by the mills seems to have very definitely proved that it is the inch by inch variation of laps which affects the uniformity of the yarn, and that the yard by yard weight of this lap is of little if any consequence where the inch by inch variation is not good.

A great many persons, including myself, have believed for years that the yard by yard variation in a picker lap had no more influence on the uniformity of the yarn than the phases of the moon would have. A yard of average weight picker lap will make about 12 miles of 30s carded yarn. It always seemed rather far-fetched to assume that if a picker lap was well-felted, and of uniform transverse distribution, differences in the yard by yard weight of the lap could have any possible effect on the uniformity of the yarn as checked by pulling it off of a bobbin or wrapping it on a board. The amount of yarn that would be wrapped on a board for inspection would come out of a small fraction of an inch of picker lap, and it therefore seemed certain that it was the variations in these small portions of lap that affected the yarn rather than changes in the total weight of the lap from yard to yard.

Before this electronic tester was developed, thousands of tests made on card sliver seemed to thoroughly confirm the assumption that the yard by yard weight of a lap was inconsequential unless the internal distribution of the cotton was uniform. The electronic tester has now verified the conclusions reached from the card tests. Picker laps showing identical yard by yard variations will consistently show 50 per cent or more difference in inch by inch variation, due to improper distribution of the lint within the lap. This seems thoroughly logical, because it is theoretically possible to make laps with no yard by yard variation whatever, but with a lumpy tex-

Let us meet our duties and responsibilities through all the year with an open, willing heart; and let us give only our best, as we understand our best to be.

Harry C. Bdey
President

HOWARD BROTHERS

WORCESTER, MASSACHUSETTS

ture which would result in terrible card sliver.

Some of your oldest readers might remember the days when laps were made by having two boys on each side of the picker apron weigh out cotton in a pan scale and spread this by hand on the apron, which was marked off with a stripe down the center and transverse stripes every yard. To make a 16-ounce lap each boy would weigh out eight ounces of cotton and then spread it as carefully as he might, in the rectangle formed by these marks on the apron. If the cotton was accurately weighed and the boys were reasonably careful in spreading it, such an arrangement would no doubt make a very fine yard by yard lap, but it would be a breaker type lap, and quite lumpy. The card sliver would be very uneven. It would also be possible with a Bramwell feed to supply a picker accurately enough to make laps of almost perfect yard by yard weight, but these would also be breaker laps and would have the cotton poorly distributed throughout the sheet.

For a number of years some of the better textile laboratories have recognized the absurdity of assuming that a lap with good yard by yard weight was necessarily a good lap. It is fairly obvious that a lap with a very bad yard by yard weight is not a good lap, and it is therefore desirable to occasionally weigh some laps up yard by yard as a check on the mechanical condition of the opening and picking machinery. The dangerous fallacy is to assume that because a lap is uniform yard by yard, it is a good lap. The ITT tests have conclusively shown that such a lap may be a very poor one from a carding standpoint.

Since so many cotton mill people still cling to the delusion that the yard by yard test is the final answer in determining lap quality, I believe that some discussions on this subject would be of great interest, and hope this letter will get such discussions started. The modern cotton mill is more and more dependent on the quality of picker laps. As each process is abandoned, and as each draft is increased, so is the responsibility of the picker room for delivering smooth, well-felted laps to the cards.

CONTRIBUTOR No. 8511

Service for Belger Testers

EDITOR TEXTILE INDUSTRIES:

I have noticed in your magazine references to the Belger tester. Our company purchased one of these testers several years ago and has never been able to get satisfactory service from it. Perhaps this has been our own fault, but we would like to obtain more information about the machine. We do not know the source for the cards on which the diagram is drawn. The tester indicates that all of our roving has a hard twist, but we are running our roving with as little twist as possible.

CONTRIBUTOR No. 8523

EDITOR TEXTILE INDUSTRIES:

In answer to CONTRIBUTOR No. 8523, we have our own paper printed, and our shop supplies any parts or service required for the Belger roving tester. We have never been able to use the machine with any degree of success except as a check on twist, and we have worked out our standards for this. One of our charts is attached to serve as a sample.

We find that each hank roving, when using the weights as recommended with the machine, requires a different twist line. Typical of this would be .50 hank roving which should run from 5 to 7, and 3.00 hank roving should run from 9 to 12.

We should be glad to show CONTRIBUTOR No. 8523 how we use the machine if he wants to visit with us.

CONTRIBUTOR No. 8524

EDITOR TEXTILE INDUSTRIES:

CONTRIBUTOR No. 8523 may obtain information, parts, and service for the Belger roving tester by writing to T. W. Winstanley, Repair Order Department, Whitin Machine Works, Whitinsville, Mass.

CONTRIBUTOR No. 8525

EDITOR TEXTILE INDUSTRIES:

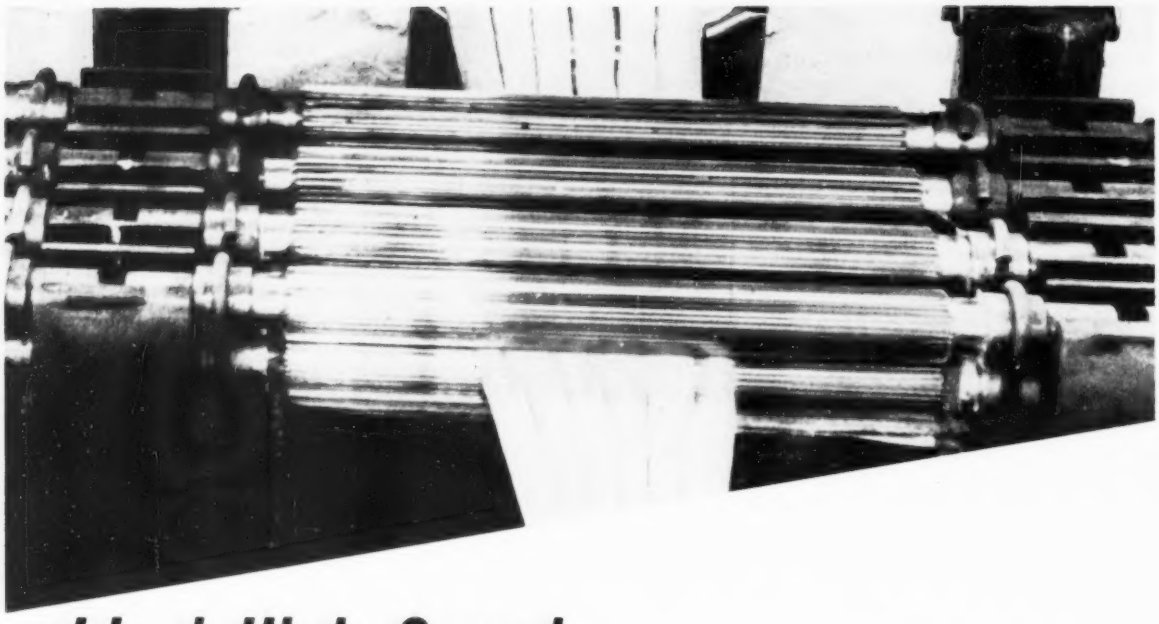
CONTRIBUTOR No. 8523 should be able to get parts and charts for the Belger tester by contacting Whitin Machine Works. We or-

Chart for Belger Roving Tester

REMARKS

FULL BOBBIN	HALF FULL BOBBIN	EMPTY BOBBIN
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	

DATE 194
MACHINE SLUBBER SPEEDER LONG DRAFT
MILL HANK ROVING
COTTON MIX SHIFT
GEARING
DRAFT
TWIST
TENSION
LAY
BOBBIN TAKEN FROM: FRONT BACK
BOBBIN SIZE
TENSION LINE: F 1/2 E AVG STD
TOLERANCE + — 1 LINE
INSIDE OUTSIDE
EVENNESS
FLUCTUATION
LINE AVG
TOLERANCE
INSIDE OUTSIDE
AVG TWIST LINE
STANDARD
TOLERANCE + — 1 LINE
INSIDE OUTSIDE
OPERATOR



Ideal High Speed Ball Bearing Drawing Rolls Cut Drawing Costs

Original Cost—Two Ideal Drawing Roll units outproduce three conventional ones. They cost you less to buy.

Less Maintenance—You need fewer operators to tend Ideal Drawing Rolls, because there are fewer rolls to tend. They require less attention per unit because their hardened and ground fluted rolls never nick or burr to cause ball ups, and because they are **permanently** aligned and synchronized.

Ideal Construction also eliminates 90% of the usual costly job of taking down, cleaning, reconditioning, scouring, removing burrs, and oiling.

Ideal Drawing Rolls also improve quality and increase production. When the Evener Motion, which was shown at Greenville, is in production it can be added by simply substituting it for the back top roll.

Get full information on Ideal High Speed Ball Bearing Drawing Rolls before you replace a single unit in your mill.

Cuts Drawing Cost

Ideal Industries, Inc.
Bessemer City, N. C.

dered our charts from Whitin, as I recall.

To interpret the charts we use the following rules of thumb:

If the graph covers more than three spaces on the chart, the roving is considered to be uneven.

If the graph runs diagonally across the chart, the tension is uneven. Even tension will move the graph straight across the chart.

Too much twist will place the graph at the top of the chart.

Too little twist will place the graph at the bottom of the chart.

To study the uniformity of roving, the Brush tester, the Saco-Lowell tester, and the Uster tester all are better suited and give better results than the Belger tester. Frankly, we don't use the Belger tester a great deal.

CONTRIBUTOR No. 8526

Analysis of Movement of the Mule Carriage

EDITOR TEXTILE INDUSTRIES:

During spinning, the mule carriage moves outward from the drawing rollers at a steady and uniform speed. This comparatively slow, uniform, and steady movement presents no difficulty to the operator because the whole length of the carriage is under the control of the back shaft.

When the carriage moves inward toward the rollers and at a varying and rapid speed, entirely different conditions exist. The spinner should carefully consider the mechanics of the carriage's inward movement if he wishes to prevent broken ends and tangles.

Standing at the mule end and looking along the spindle points toward the other mule end, when the carriage commences its outward run, the headstock part of the carriage moves slightly in advance of the mule ends. This is due to the greater elasticity of the backshaft band and the backshaft and the scroll bands when compared to the elasticity of the drawing up band.

Any movement of the headstock part of the carriage ("carriage square") must necessarily cause every spindle of the mule to start revolving, consequently, on those parts of the carriage with dilatory movement the yarn is strained, and the amount of strain depends upon the delay.

The shape of the scrolls on the bottom scroll shaft causes the carriage to increase speed rapidly until the middle of the inward run. Then the speed quickly diminishes until the backstops are reached. The momentum of the carriage after attaining full speed is so great that no further power is needed to complete the second half of the run-in. In fact, a check band is needed to prevent the carriage from over-running the scrolls. This check band is attached to the front of the carriage, and the bottom scroll shaft exerts a tremendous retarding action on the carriage.

So great are the forces at work (the momentum of the carriage trying to over-run the scrolls and the check band trying to keep the two in unison) that the out-ends of the carriage gain upon the headstock and bend the carriage out of alignment. This causes the out-ends of the carriage to reach the back stops first, before the spindles have stopped revolving, and before the unlocking function is completed.

Strained or stretched yarn at the out-ends of the carriage is the result (or would be the result) if the spinner fails to "slack the winding" to accommodate the condition. By this means slack yarn, tangles, or snarls are produced at the headstock.

Swinging Carriages. It can be said that all normal mule carriages "swing", as described heretofore, during the inward run. The carriage square starts slightly in advance of the ends, but the ends invariably get to the backstops first because the action of the check band, centered at the headstock, retards that part of the carriage more than the out-ends.

This condition is not so noticeable on short or strong mules, nor is it so detrimental when spinning coarser yarns; however it is noticeable on old mules with oil soaked carriages. In such instances a little extra attention to the problem

Fig. 1

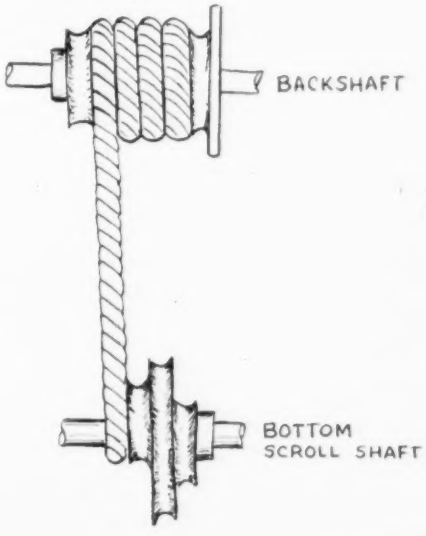
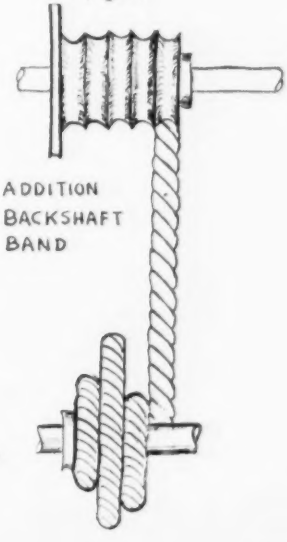


Fig. 2



SHORT CUT TO BETTER SQUEEZE ROLL COVERS

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The WPF&M Yarn Winding Attachment permits an even cover to be applied to squeeze rolls without removing them from the size box. This attachment can easily be mounted on size box frames.

A traversing carriage guides cotton, jute and wool yarn across the roll face in a matter of minutes. No marking of warps from blanket lap.

This modern and better method of covering squeeze rolls makes a complete recovering necessary only three or four times a year.

Greater economy is effected by using yarn instead of wool slasher blankets. The attachment will easily pay for itself in a year or two.

Let us give you complete details.

The WPF&M YARN WINDING Attachment

•

Eliminates Blanket Lap

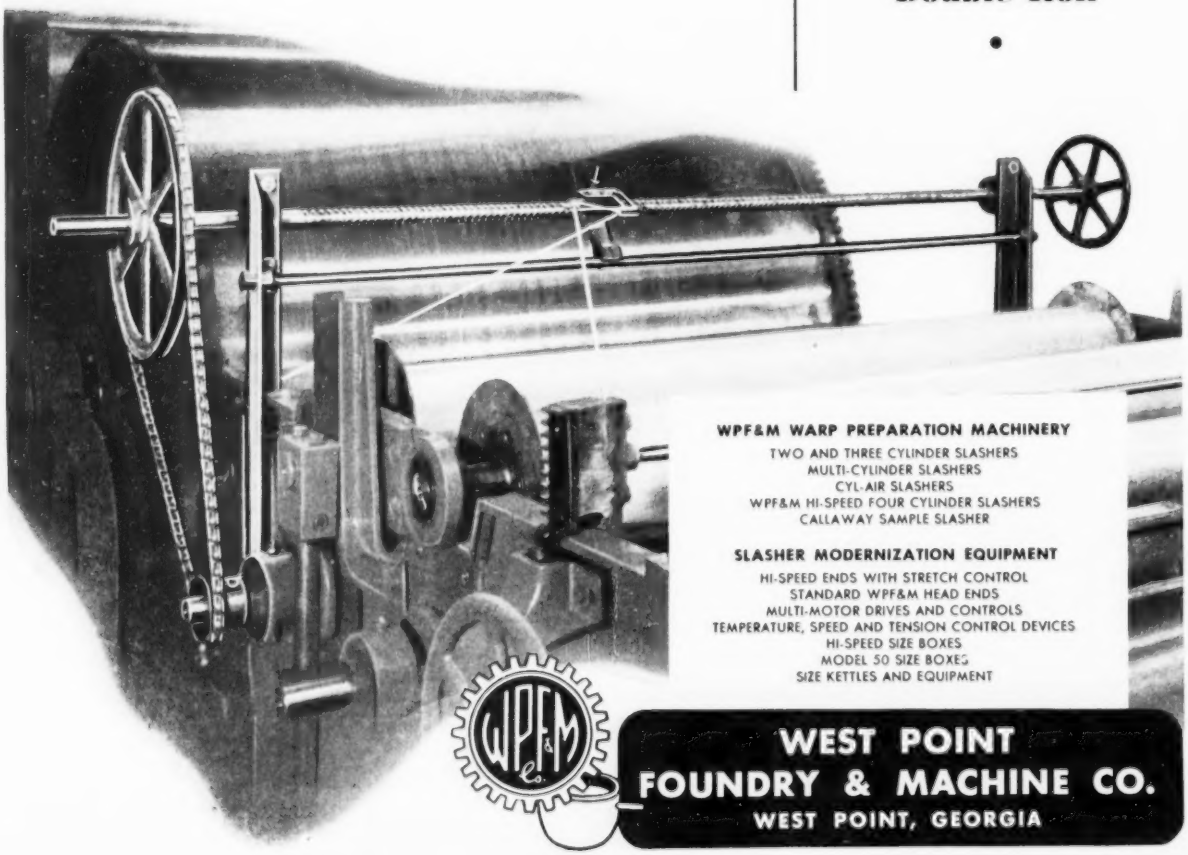
•

Quicker and Easier To Apply

•

Costs Less Saves Up To $125 A Year Per Double Roll

•



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TWO AND THREE CYLINDER SLASHERS
MULTI-CYLINDER SLASHERS
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WPF&M HI-SPEED FOUR CYLINDER SLASHERS
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SLASHER MODERNIZATION EQUIPMENT

HI-SPEED ENDS WITH STRETCH CONTROL
STANDARD WPF&M HEAD ENDS
MULTI-MOTOR DRIVES AND CONTROLS
TEMPERATURE, SPEED AND TENSION CONTROL DEVICES
HI-SPEED SIZE BOXES
MODEL 50 SIZE BOXES
SIZE KETTLES AND EQUIPMENT

WEST POINT FOUNDRY & MACHINE CO.
WEST POINT, GEORGIA

is always worthwhile. Oftentimes good results are achieved by simply reducing the tension on every nut and bolt connected to the spindle box, the diagonal rods, and the coupling bolts.

Some experienced spinners also "get the carriage in straight" by setting the carriage ends about 3/16" farther from the rollers than the headstock. The idea is to use the bending action to straighten the carriage at the most critical moment; that is, when unlocking.

I have obtained excellent results many times by slowing the speed of the inward run by about 10%. This may be done by putting a different pulley on the counter shaft. A reduction of 10% in speed reduces the tendency to swing by about 20% because the momentum of the carriage varies in proportion to the square of the speed. Any loss of production is more than offset by better quality yarn and far less piecing up of broken ends by the operator.

Two Back-Shaft Bands. In view of the fact that carriage swing is caused by the retarding force being applied at the headstock part of the carriage only, it is reasonable to assume that if this force were applied evenly along the entire length of the carriage, no swing would occur.

The accompanying drawings (Fig. 1 and Fig. 2) show how this can be attained. An additional scroll is put on an extended bottom scroll shaft. The scroll is attached so that it is exactly opposite to the normal back-shaft band. When the normal back-shaft band is winding the rope (Fig. 1) on the bottom scroll, the other one is unwinding its rope at exactly the same speed. In this way the back-shaft is made to control the carriage, each scroll band or "squaring band" acting as a check band.

CONTRIBUTOR No. 8494

Simplified Method for Locating Warps in Storage

This item was submitted in a kink contest.

EDITOR TEXTILE INDUSTRIES:

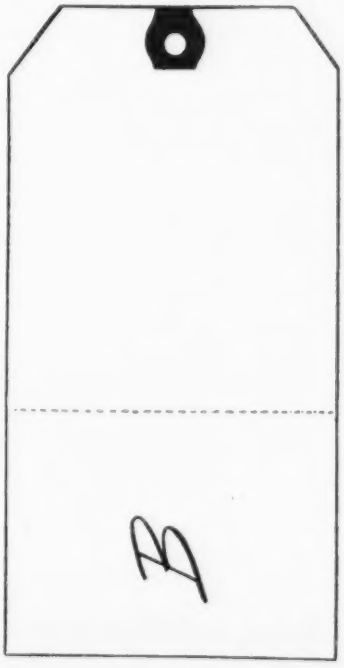
We have successfully solved a problem in locating warps. The problem was evident in trying to find a warp of a definite number of ends and of a specific color pattern among approximately 120 loom beams aligned in 15 rows, 10 beams per row. A total of about 70 different color patterns and about 25 different numbers of ends were available to add to the confusion, and locating the desired warp required considerable time and loss of production.

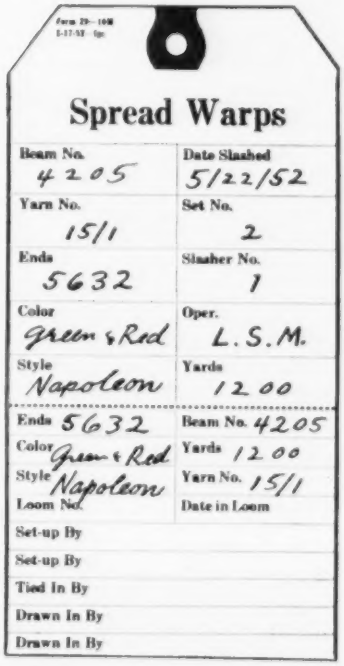
A different alphabetical letter was written on each of several cards which were placed on the wall over each respective row of warps. A plywood board 40" x 25" was also placed in the storage room. The board contains rows of pockets made of cardboard and measuring 4" x 4".

The pockets were nailed to the plywood board along the bottom and sides (see illustration on page 151). Each cardboard pocket is labeled according to a specific number of ends contained in a warp, and there are 25 different warps containing 25 different total numbers of ends.

As the warps arrive from the slasher room, they are placed wherever there are empty spaces in the rows of beams. On the back of the stub of each incoming warp card (see accompanying illustration) a letter is written indicating the row where the warp is placed. The detached stub is then inserted in the proper pocket.

When the warp tyers come to fetch a loom beam, all they have to do is walk over to the board, withdraw the stubs from the pocket designating the number of ends desired in the warp, choose the stub showing the warp pattern and colors, and replace the remaining stubs in the pocket. On the back of the selected stub is the letter which indicates the row where the beam can be found. Then the stub is dropped in a box below the board. Removal of stubs from

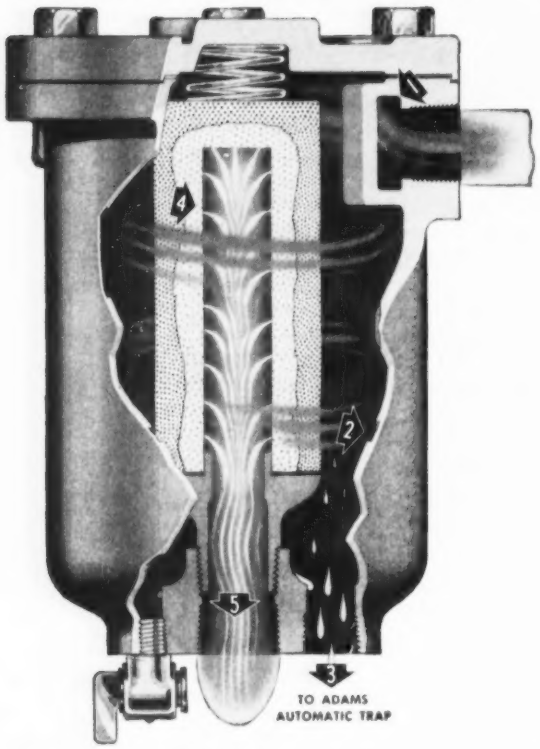




Spread Warps

Beam No. 4205	Date Slashed 5/22/52
Yarn No. 15/1	Set No. 2
Ends 5632	Slasher No. 1
Color Green & Red	Oper. L.S.M.
Style Napoleon	Yards 1200
Ends 5632	Beam No. 4205
Color Green & Red	Yards 1200
Style Napoleon	Yarn No. 15/1
Loom No.	Date in Loom
Set-up By	
Set-up By	
Tied In By	
Drawn In By	
Drawn In By	

ADAMS *has both* *



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* PORO-STONE *AIR FILTER*

1. Centrifugal separation of dirt and liquids.
2. Drainage to trap directed by vertical cast-in slots.
3. Continuous, fully automatic trap action.
4. Rapid diffusion and filtration through permanent, cleanable Poro-Stone.
5. Clean, dry air at practically unchanged pressure. Standard, stocked sizes handle from 10 to 700 cfm.

Easily installed in either vertical or horizontal pipe line.

* *AFTERCOOLER AND CYCLONE SEPARATOR*

Cools air to within a few degrees of cooling water, making certain that compressed air is colder than surrounding atmosphere, so that no further condensation can take place.

Counter flow, air-through-tube design assures continuously high heat transfer rate.

Double cyclonic action deposits all water and entrained oil in moisture chamber.

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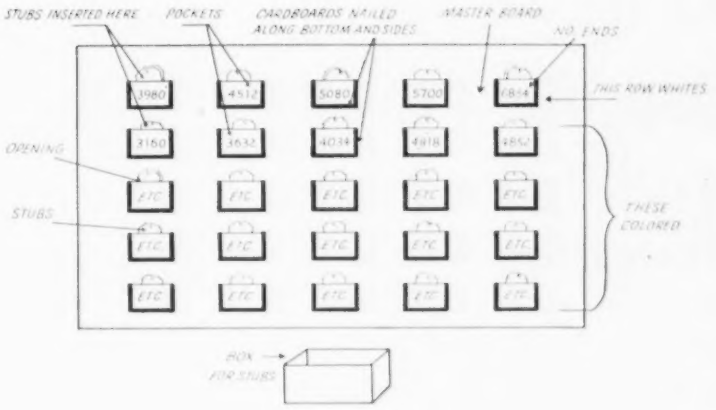
FOR YOUR PROFIT'S SAKE — FIND OUT ABOUT BOTH

R. P. ADAMS CO., INC., BUFFALO 17, N. Y.

the board pockets coincides with the removal of the warps from the storage room.

As a matter of routine inventory control, a warp inventory is conducted every week, and the board pockets are checked for mistakes on the part of the material handler who brought the warps from the slasher room. It is possible for some employee to forget to detach the stub and place it in the proper pocket, or to write down the letter of the row where the loom beam was stored. The warp tying-in-man may neglect to drop the stub in the box after finding the warp he sought. However, after the routine has been established, mistakes are seldom made.



The foregoing system offers other benefits aside from saving time in locating a specific warp:

(1) It shows the overseer at any time whether a certain warp is available or not.

(2) It is helpful in keeping warp inventory and in production planning.

(3) The sytem is simple and inexpensive.

We think that our procedure in locating warps may prove as useful in other mills as it has in ours, regardless of the warp specifications. Alterations may be made to the system, depending upon the needs of the mill.

CONTRIBUTOR No. 8508

Discussion on Twist in Knitting Yarns

Question Briefed: *Yarn is run on a knitting machine in opposite direction from which it was run in spinning and twisting. Should yarns be packaged to run on a knitting machine in the same direction it was run in twisting and spinning?* (CONTRIBUTOR No. 8475, *December, 1952.*)

EDITOR TEXTILE INDUSTRIES:

I am very much interested in the questions relative to producing two-ply yarns and the subsequent effects on knitting machines. We have a general knowledge of how 2-ply yarns are made. Our experience in the use of 2-ply yarns in hosiery manufacturing covers an extensive range, including many constructions and counts.

In trying to arrive at a definite answer to the questions, I took some 2-ply yarn on skeins and, using a small cone winder, wound several counts of 2-ply mercerized and combed cotton in the customary manner. Next I took some of the same yarn and reversed the winding procedure so the delivery to the machines would be in the opposite direction. I used a device which registers the amount of tension or drag between the cones and the knitting cylinder while the yarn is being consumed by the machine and found the reading to be *exactly* the same on both types of winding.

I knitted some socks from both windings on one machine and found the hose to come out the same overall length in both instances. Also, there was no noticeable difference in feel, elasticity, and stitch formation in the hose made from the different windings.

After dyeing and finishing, the goods still had the same appearance. It is possible, of course, that on wool, spun nylon, and other types of yarn which have more loose lint adhering to the yarn, that the direction of delivery from the cones may make some difference along the lines you mention. On the tests I made, there was no difference.

CONTRIBUTOR No. 8484

Split Roller Bearings?

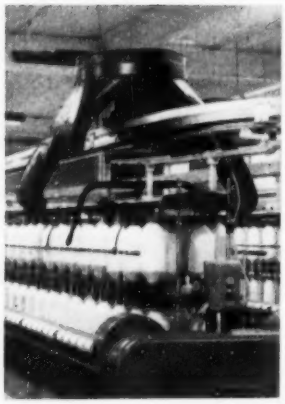
EDITOR TEXTILE INDUSTRIES:

There are many types of antifriction bearings in use in textile machinery, and all of them are of solid construction. When failure occurs or trouble develops, replacement is expensive; therefore it appears worthwhile to use bearings of a split type construction to facilitate maintenance and to cut repair costs. I should like to see some machines equipped with split bearings.

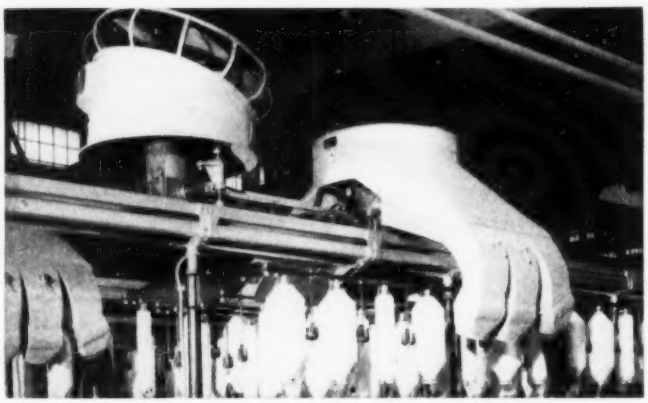
CONTRIBUTOR No. 8527

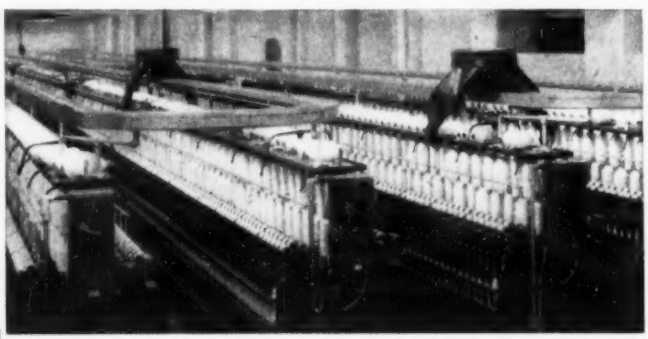
Reduce Costs and Improve Product with Parks-Cramer Traveling Cleaners

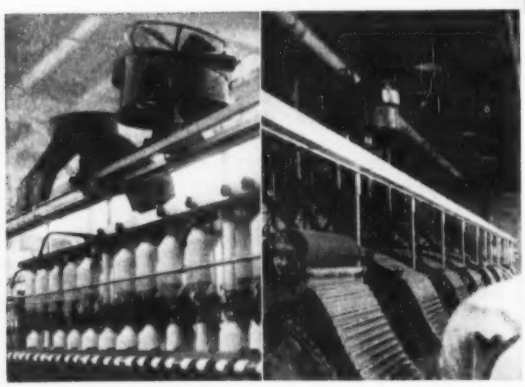
Traveling Cleaners remove lint from spinning frames and other textile machinery more thoroughly than by hand. Units run on track just above frames and direct blasts of air downward over the machine surfaces. Motion along track is either continuous or reversing to suit machinery layout and required cleaning period. Air distributors are of various sizes and shapes. Air volume, velocity and direction are adjustable. Electric conductors are enclosed and insulated for safety.



When **Flexible Cuff** extensions are used on Parks-Cramer air distributors, air blasts may be directed to relatively inaccessible or low down areas for more effective cleaning.







The **Up-draft Cleaner** improves textile mill housekeeping. Air blast is directed diagonally upward and revolves in a complete circle as the unit travels. Overhead surfaces are kept as clean as the frames.

PARKS-CRAMER TRAVELING CLEANERS have been used successfully since 1929. **17,000,000 spindles can't be wrong.**

•

Parks-Cramer

Certified Climate and Cleaning Systems

Fitchburg, Mass. . . . Charlotte, N. C.

Evener Motion for Drafting

(Continued from page 73)

ing frame processing six ends up would have six of these spring-weighted rollers on each delivery). This roll measures the thickness of the sliver as it comes into the drafting mechanism. When the sliver increases or decreases in thickness, this roll moves up or down accordingly, changing the effective diameter of the back drafting rolls. The result—rate at which sliver is fed is decreased or increased accordingly, so that variation of sliver produced on the machine is reduced.

Ideal Industries, Inc., Bessemer City, N. C.

For additional data, request item A-118, using Handy Return Card on page 188.

NEW Equipment AND MATERIALS

Other items are described on pages 71 and 73

Four-Cylinder Steam Brush Built for High Speeds

A new four-cylinder Steam Brush is designed especially for fabrics which must be cleared out and softened.

The two 16" brushing cylinders, clothed with nylon bristles, and the two front brushes with a combination of nylon bristles and sandpaper slats, are accurately balanced to withstand high speed. Positive, fully encased, chain drive on these cylinders eliminates both belt slapping and all slippage.

Centralized lubrication greatly reduces maintenance time of this all ball-bearing machine. Dust collectors are installed under each of the brushing cylinders, including the spiral, nylon bristle back brush. With the steam pot located overhead no steam blows on the machine.

Automatic brakes completely halt coasting. A variable speed drive from 35 to 80 yards per minute, which is optional equipment, plus independently adjustable contact rolls, facilitate brush adjustments according to different brushing requirements. By noting the indicator readings on these contact adjusters, certain brushing and sanding effects can be duplicated at any time.

David Gessner Co., Worcester, Mass.

For additional data, request item A-123, using Handy Return Card on page 188.

Top Roll Features Interchangeable Parts

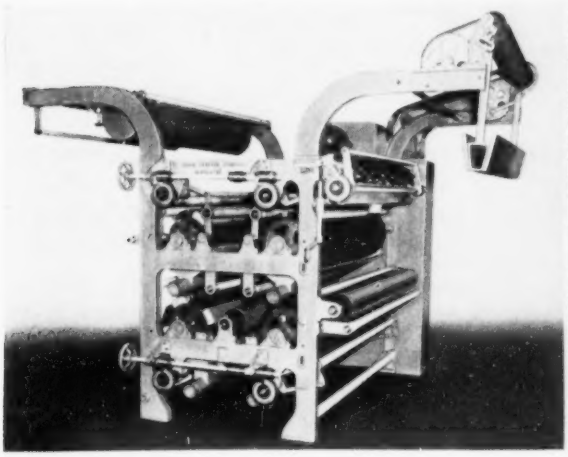
Top roll maintenance costs can be reduced by utilizing Faultless Ball Bearing Top Rolls (for roving and spinning frames) with interchangeable parts. Usable parts are saved and only the worn items replaced.

Self-contained ball bearing units have a heavy load rating. Rugged construction and precision workmanship assure long years of service. Replacement of these units may be easily accomplished—simply loosen one set screw, slip cot and sleeve from shaft, remove worn ball bearing unit and replace with new one.

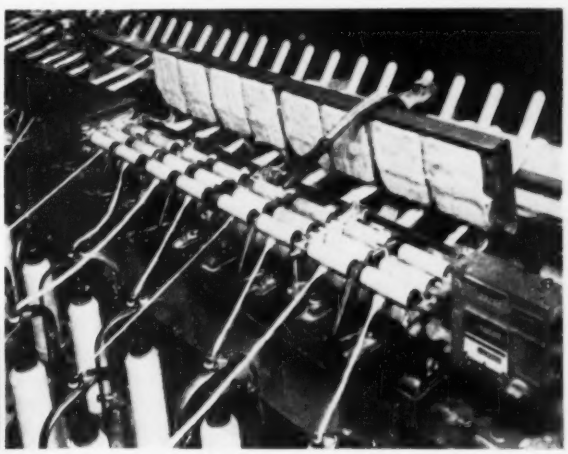
Exclusive oil seal eliminates necessity for oiling top rolls at the frame; consequently oil does not get on cots or stock in process and oiling costs are reduced.

Other advantages provided by these top rolls: perfect rotating synchronization of top and bottom rolls; no ends down due to high starting fric-

Gessner four-cylinder steam brush.



Fly frame equipped with Faultless top rolls.

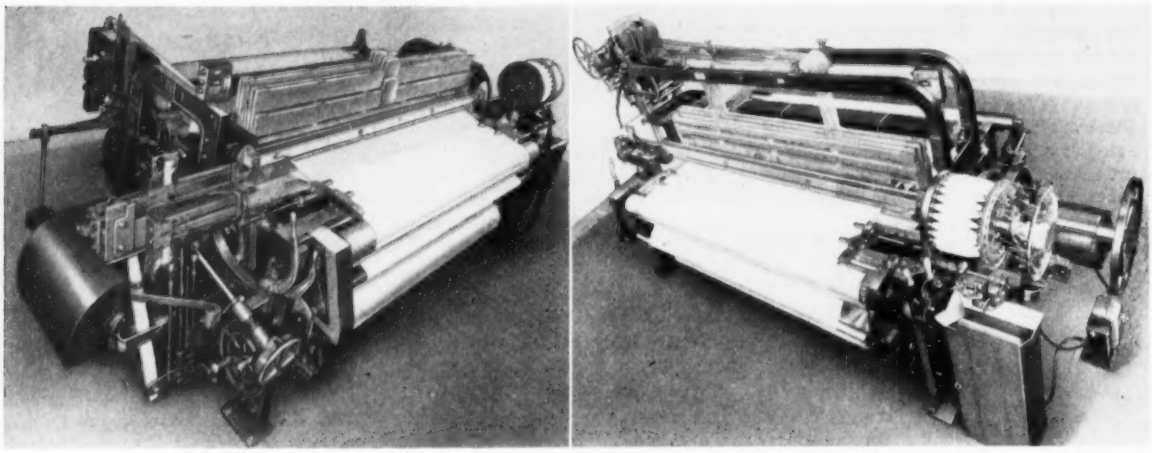


NEW Equipment AND MATERIALS

tion; no lapping of lint on journals; fiber control in drafting zone is improved; no wear on cap bars and saddles; less roll picking required.

Faultless Caster Corp., Textile Equipment Div., Evansville 7, Ind.

For additional data, request item A-107, using Handy Return Card on page 188.



C&K filling mixing looms: left, with side cam harness motion: right, with head motion.

Filling Mixing Loom for Woolen, Worsted, and Blended Fabrics

For the weaving of woolen, worsted, and blended fabrics requiring mixing of the filling only, a new, simplified loom has been developed. Designated the W-3AC, 8-Harness, 2 x 1 Box, Filling Mixing Worsted Loom, it is available only as 2 x 1 box filling mixing, but with several choices of construction.

The manufacturer reports that two of these looms 82" b.s. with a 76" warp spread have been running for many months at a speed and efficiency sufficiently in excess of that of any comparable weaving machine.

The harness or shedding motion may be a Knowles head, dobby, or a newly designed end cam mechanism. Clutch may be of cork friction or double plate friction type. Picking may be either batwing or cone. Several innovations are available on the center stop motions.

The two-cell shuttle box accommodates a shuttle 17½" long by 1 15/16" wide by 1½" high, for an 8¾" bobbin with a 1⅜" maximum wound diameter. Boxes are actuated by either a positive geared or cam motion. A center fire picker with parallel motion and back binder is used on the magazine end and a new type of drop box picker on the drop box end. Newly patented binders at both ends assist materially in proper checking and picking and contribute to increased speed and better quality of fabric.

A new scissor-type thread cutter operates at the eye of the shuttle, leaving a very short tail to pass into the bobbin can at transfer. A new type of thread cutting temple cuts the filling on the outgoing bobbin on the first pick and on the new bobbin on the second pick. Thus filling drag-in is minimized.

A rotary magazine operated by a cam on the bottom shaft has a capacity of 22 bobbins. Electro-mechanical feelers which do not require metal bobbin ferrules are employed at the box end.

Several types of letoffs are available, depending upon requirements. Beam up to 32" in diameter can be accommodated. The all-purpose take-up is recommended. Other types may be furnished on special order. Removable cloth rolls are standard.

Electric warp stop motions of two, four, six, and eight banks with new safety signals not only stop the loom at predetermined position and insure against ends out but assist the weaver in locating broken ends and eliminates arcing and thus danger of fire and of shock to the operator.

Crompton & Knowles Loom Works, Worcester 1, Mass.

For additional data, request item A-307, using Handy Return Card on page 188.

Textile Applications for Television Equipment

RCA Industrial Television provides a means of viewing at a distance, a clear, exact, instantaneous picture of a scene or operation where direct observation is too dangerous, too inaccessible, too inconvenient, or too expensive. Textile industry applications visualized include: inspection of slashing, continuous dyeing and finishing ranges, etc.; time study; oven and furnace operation; plant intercommunication; training; and materials handling control.

The picture is picked up by an extremely small, light weight camera and transmitted by a single cable to a conveniently located viewing monitor.

By using more than one camera, a single observer may watch a num-

Industrial type television camera and monitor (RCA).

ber of widely separated points and through the use of multiple receivers, observes at different locations can all view the same scene simultaneously. Close-ups of experiments, demonstrations, and microscopic studies can be enlarged and projected for more convenient and comprehensive viewing by large groups.

This light-weight, two-unit chain (camera and monitor) operates from ordinary 115-volt, 60-cycle power supply and is completely self-contained. Power consumption is only 230 watts.

Radio Corporation of America, Engineering Products Department, Camden, N. J.

For additional data, request item A-106, using Handy Return Card on page 188.

Many Uses Indicated for Pliable Plasticized Yarn

A pliable plasticized yarn named "Cellucord" can be woven with cotton, wool, jute, viscose, acetate, nylon, and other man-made fibers, and can be knitted, braided, or bonded. Woven Cellucord may be covered with plastic or other coatings or laminated with resins to make other desirable materials.

Indicated uses for the yarn: automobile seat covers, upholstery, furniture webbing, belts and belting, matting, shades, screens, welting, cable wrap, hampers, hand bags, etc.

Tensile strength, depending upon yarn size, ranges from 6½ to 200 lb. Colors to specification.

Samples and brochure outlining natural properties and characteristics are available upon request.

The Cellucord Corp., 630 Fifth Ave., New York, N. Y.

For additional data, request item A-302, using Handy Return Card on page 188.

SAVE MACHINE TIME • • • MONEY • • • USING JOHNSON UNIVERSAL BRONZE

THESE bronze bars have many uses, particularly where their free machining properties are important. Many manufacturers find Johnson Universal Bronze ideal for certain gears and pinions, guide rollers, sheaves, trolley wheels, tips for air tools, washers, thrust plates, as well as for bushings and bearings. The cost per pound is offset many times by the low cost of machining. Non-sparking properties and corrosion resistance recommend it for certain uses. Another big advantage is that Johnson Universal Bronze is available from distributors' stocks, fully machined, in solid bars ⅝" to 8" diameters and in cored bars from ½" to 7¾" inside diameters—in all, over 400 sizes. Also available in hexagon bars from ⅝" to 3" outside diameters. Each bar is usable from end to end, no waste.

JOHNSON BRONZE CO.
530 So. Mill St.
New Castle, Pa.

JOHNSON B BEARINGS
Sleeve-Type

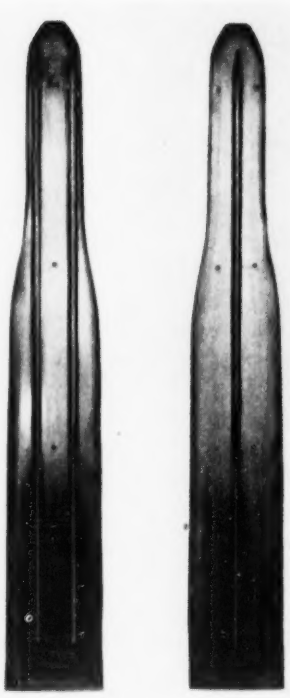
NEW Equipment AND MATERIALS

Hosiery Examining Form with Stocking Turning Feature

A Flat Bakelite Examining Form now on the market allows the examiner to turn the stocking as she pulls it on the form; also easier and better "picking out" can be accomplished because the fabric is held away from the board. On one side of the form are two turning strips and in the center of the opposite side is a single strip.

Mills that are already using regular flat examining forms can convert them to the improved type by installing the strips.

For mending pulls, two new picks are available—one a single point pick; the other, a double point pick. The single point pick is for small pulls and the double point for large pulls. They can be used by the examiner on the form or by the mender over the mending cup.



Both sides of United Knitting's hosiery examining form are shown here.

United Knitting Machine Co., 2734 North Second St., Philadelphia 33, Pa.

For additional data, request item A-121, using Handy Return Card on page 188.

Automatic Throwover Panel Assures Power in Emergencies

A new automatic throwover panel, a control device that transfers electric circuits to an emergency power source when the normal source fails, has been announced. For use in factories and all places of public assembly. The panel automatically transfers electrical circuits to a standby power source when the regular supply is interrupted. A relative newcomer to the field of safety devices, throw-over controls have been made legally mandatory for public buildings by many state legislatures.

General Electric Co., Schenectady 5, N. Y.

For additional data, request item A-401, using Handy Return Card on page 188.

Do you get
10 YEARS' SERVICE
from your take-up roll covering?

Many mills report using TEXALOX take-up roll covering by CARBORUNDUM for ten years continuously—*without replacement or showing evidence of wear.* Do you get that much service from the roll covering you're using now? Does it give you all the other valuable advantages TEXALOX covering offers? For example:

- **NEVER GETS SLIPPERY OR GUMMY**—outlasts other materials.
- **DOESN'T SHED**—as other paper coverings do.
- **CAN'T RUST**—as metal coverings do.
- **PREVENTS CHAFE AND CUT MARKS.**
- **WON'T WRINKLE OR LOOSEN.**
- **RESISTS OIL AND GREASE**—and never accumulates them.
- **NEVER LOSES** its even, gentle grip on the fabric.
- **ALWAYS DELIVERS** definite lengths of material.

If your present roll covering doesn't offer you these advantages, you'll want to try TEXALOX roll covering—created expressly for the textile industry by CARBORUNDUM. There is a TEXALOX roll covering for each textile type, from sheerest nylon to heaviest duck. It's easy to apply. Try it on your looms—see what an improvement it is over old style coverings. We'll send you a sample length, free of charge. Ask your CARBORUNDUM Distributor—or write Dept. TI 82-31.

TEXALOX
TRADE MARK
SURE-GRIP TAKE-UP ROLL COVERING
by CARBORUNDUM

"Carborundum" and "Texalox" are registered trademarks which indicate manufacture by The Carborundum Company, Niagara Falls, New York

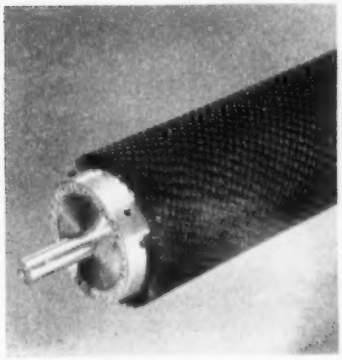
"Reading" R-100, 66-Gauge Knitter Developed

A 66-gauge "Reading" full-fashioned knitting machine embodying all of the new developments contained in the high speed (up to 100 courses a minute) R-100 type 60-gauge machine, first shown last September, has been developed. Efforts are being made to schedule production of the new R-100, 66-gauge machine for the second quarter of 1953.

Some of the improvements in the R-100 type machine are: needles, sinkers, and dividers have been redesigned; carriers are perforated; cam levers and cam motions have been redesigned; damage to cock-box housings, jacks, jack beds, sinker heads, and verge plates prevented by new catch-bar safety; speed selector is controlled by pattern chain.

Textile Machine Works, Reading, Pa.

For additional data, request item A-301, using Handy Return Card on page 188.



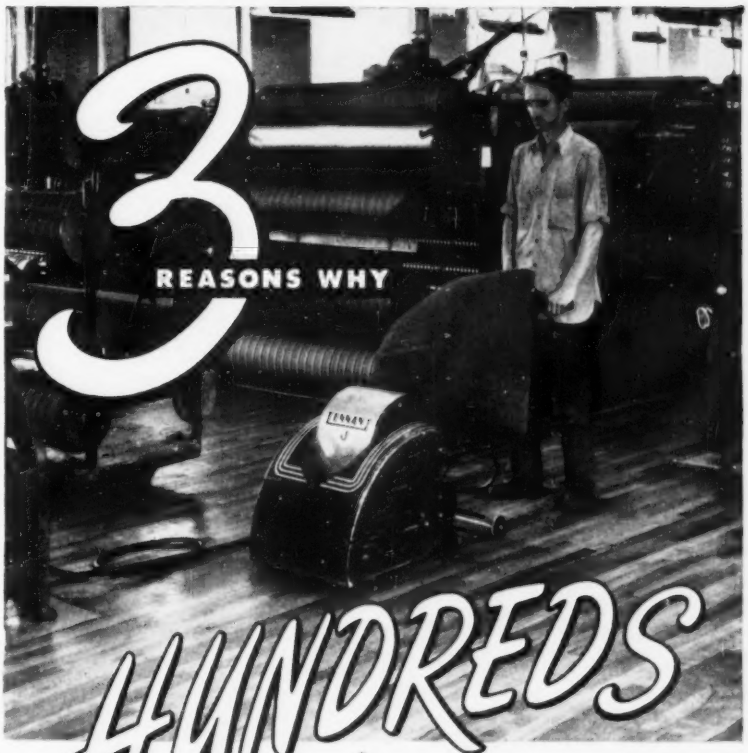
Tiny nylon tufts are utilized in this furnisher brush by Jenkins.

Furnisher Brush for Use with Shallow Engravings or Low-Viscosity Colors

A new style of brush, especially designed for textile color furnishing where shallow engraving or low viscosity colors are used, has been developed.

The "Tiny-Tuft Metlkor," with all the construction features of the standard Jenkins' Metlkor brushes, embodies also those advantages of Metlkor tufted non-bleed construction which permit ease of cleaning and quick change of colors.

In addition, the nylon tufts are smaller and more closely spaced, effecting an over-all distribution of the bristle, yet retaining the tufted pat-



HUNDREDS
OF MILLS USE THE
TENNANT System
OF FLOOR MAINTENANCE

Its cost-saving performance and ease of use have established TENNANT as *THE accepted floor maintenance system of the U.S. textile industry.* This unique acceptance is due to these practical advantages . . .

1. CUTS FLOOR MAINTENANCE COSTS

You save 4 ways—in *manhours*, by cleaning faster in one operation with 1 man; you cut *accident costs* by DRY-cleaning (no wet, slick floors). You avoid needless *floor repair costs* . . . and reduce *stock losses* from snags, splinters and soilage.

2. EASIEST TO USE: eliminates scrubbing!

Works like magic! You get rid of dark, rough, oil-soaked fibers . . . and have a smooth, bright, *hardened* floor surface that resists dirt. Stays clean longer! Ends costly, harmful scrubbing and wet-mopping.

3. FITS YOUR MILL'S SPECIFIC NEEDS

Your TENNANT System is individually selected and planned, 100% *specialized* for your mill. Assures you of best results. Personal installation and periodic inspection . . . *without charge.*

ONLY DAILY CARE needed is fast, low cost sweeping. Oil, dirt and dust do not cling to the smooth, hard surface of a **Tennantized** floor. Dirt sweeps off easily . . . Keeps your floor bright and attractive.

OFFICES IN PRINCIPAL CITIES

TENNANT Established 1870

G. H. TENNANT CO.
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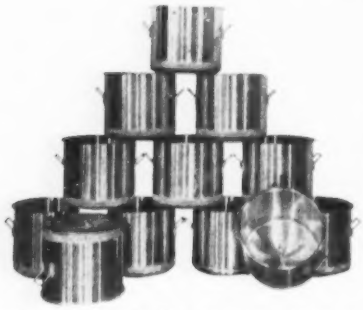
Write Today!
Get helpful case histories, illustrated bulletins, etc. Learn HOW YOUR MILL CAN SAVE ON MAINTENANCE COSTS . . with the Tennant System.

FLOOR MAINTENANCE SYSTEM
Creators of the TENNANT SYSTEM OF FLOOR MAINTENANCE—Manufacturers of Equipment & Materials for MAINTENANCE OF FLOORS, DECKS, ROOFS, HIGHWAYS

Leading Mills use GLASCO

TANKS, PAILS, STORAGE CONTAINERS

and other accessory equipment



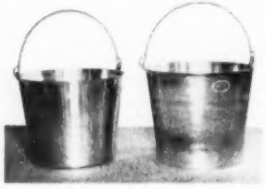
Typical of a big line are:

STAINLESS STEEL STORAGE CONTAINERS

— 18 gauge, polished outside, top edge doubled metal flanged out 5/8" at 90°. Has 2 stainless steel tubular handles. Foot is 12 gauge polished stainless steel either spot or tack welded to container and sealed with solder. Capacities: 10 gals. (14" x 16"), 15 gals. (16" x 18"), 20 gals. (18" x 19"), 25 gals. (20" x 20"), 35 gals. (21" x 24"), 50 gals. (22¾" x 30").

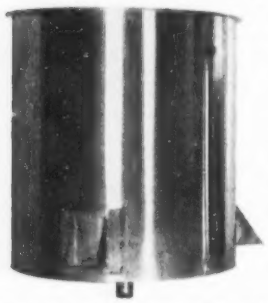
STAINLESS STEEL PAILS—

drawn in one piece (seamless), with bail handles, come with or without foot—unpolished, or polished inside, or outside—or both. They run in capacities of 12, 16 or 20 quarts.



MIXING AND STORAGE TANKS

Come in four styles: flanged and dished bottom, flanged bottom—flat or pitched, disc bottom—flat or pitched, cone bottom. Capacities: 25-50-75-100-150-200-250 and 300 gallons. Two styles of pipe legs (either with floor flanges or adjustable sanitary feet)—or with platform lugs or removable stand. Tanks 25 thru 100 gallons are of 16 and 18 gauges—and from 150 through 300 gallons they are of 14 and 16 gauges (depending on style of bottom). Extras include: 1 piece flanged cover, hinged cover, and motor bracket.



Manufacturers of modern metal equipment for wet processing uses, including Dye Jig Enclosures, Dye Tubs and Becks, Wash Tubs, etc., of stainless steel and other metals that resist corrosion under most alkali and acid conditions.

GLASCO EQUIPMENT CORP.

Pioneer Fabricators of Stainless Steel Equipment

10 WAIT STREET — GLASCO PRODUCTS — **PATERSON 4, N. J.**

Phila. Area: Marple Organization, 1200 Commercial Trust Bldg., Philadelphia 2, Pa.

New York State: Sanders Industrial Equip. Co., 1351 Broadway, Albany 4, N. Y.

South: Henry H. Hersey Co., 44 Norwood Place, Greenville, So. Car.

New England: Harris & Underhill, 446 Statler Bldg., Boston, Mass.

NEW Equipment AND MATERIALS

tern sufficiently to permit quick cleaning.

The new brush minimizes splattering; shallow and intricate engravings are thoroughly cleaned of lint and other matter; color is evenly applied and distributed, and every bristle in every tuft is radial to the core, to give uniform density and firmness.

Present furnisher installations can be refilled with this new design, and the new brushes are also refillable. Bristles are set in solvent-proof plastic cement and do not shed or break off.

M. W. Jenkins' Sons, Inc., Cedar Grove, N. J.

For additional data, request item A-124, using Handy Return Card on page 188.

Device Measures Yardage of Cloth Woven, Eliminates Over-Runs

The Durant Doffmeter, designed for loom application, is a predetermined type unit for measuring yardage of cloth woven. It will stop the loom, or signal the operator when the predetermined setting is reached. It eliminates costly over-runs, and assures uniform lengths of cloth at maximum production.

The Model 3-DM-7-1 meter is small, compact, durable, entirely enclosed for protection against dust and moisture. Over-all dimensions are: 5¾" wide by 2⅛" deep by 2⅝" high. Weight is 1¾ pounds. The cover is metal hinged, providing quick access to the predetermined number wheels, which are easily set by thumb.

Doffmeters are available for clockwise or anti-clockwise rotation and for right or left hand drive. Measurement is in yards on three visible wheels, with a hidden wheel measuring one-tenth yards. Switch capacity is 30 amps at 24 volts. The unit can be furnished with a direct switch connection to carry 15 amps at 115-volt a-c.

Device can be driven either by a gear meshing with the gear of the sand roll, or intermediate gear; also by a forked coupling. Four mounting holes are provided for convenient mounting to a bracket or plate.

In addition to the three-figure

RAPIDOGENS

priced right

RAPIDOGENS®are stable, ready to use compositions of Naphtols and diazotized bases selected for best properties, shades and maximum efficiency. Priced so low that color shop compounding is not economical.

GENERAL DYESTUFF CORPORATION

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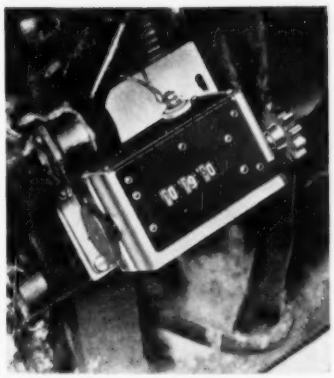


The Durant Doffmeter on a loom.

Doffmeter, this counter design is available with five figures and designated as "SP" Predetermined Counters. In either stroke or rotary type, they are applicable for general mill operations such as spinning, drawing, pin drafting, warping, beaming, and roving. The predetermined count may be set for any figure up to 99,999.

Durant Manufacturing Co., 1973 No. Buffum Street, Milwaukee 1, Wis.

For additional data, request item A-310, using Handy Return Card on page 188.

Inch-by-Inch Lap Variation Measured at Picker

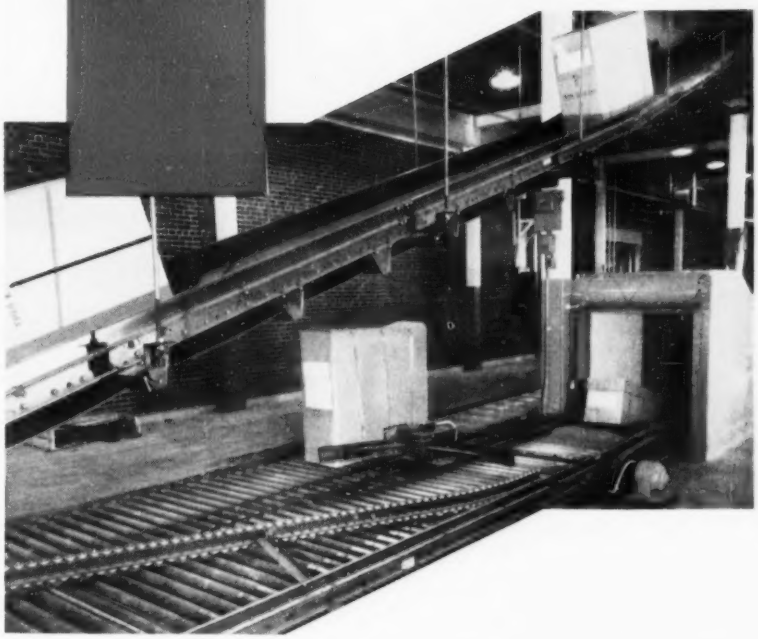
Inch-by-inch variation in picker laps weighing from 10 to 20 ounces per yard is measured by the Uster Lap Vari-Meter, an instrument for use solely with the Uster Evenness Tester (all models). The lap is not damaged. In fact, it is not even obvious to the picker tender that the lap is being tested.

The equipment consists of a condenser measuring field which is of rigid construction and made in the form of a tube. It is mounted in front of the picker calender roll and behind the lap winding rolls. Guide plates guarantee a perfect guide of the picker lap through the measuring field. Once the condenser has been mounted on the machine, no other adjustments are required.

Also furnished is an adapter which makes it possible for the lap to be tested while it is being produced on the picker and the results read and evaluated in the laboratory five or six hundred feet away. The adapter is mounted on the picker about one yard from the connection on the measuring condenser and is con-

Put those Heavy Packages on

ALVEY CONVEYORS



Why pay the high price of "manhandling"?

Strong, smooth-flowing arteries of Alvey conveyors can carry packages effortlessly and economically, throughout your entire mill. Alvey's "know-how" and wide experience in textile mill conveyor engineering is at your service—whatever your package handling problems.

It won't cost you a cent to have an Alvey engineer visit your mill and make money-saving suggestions. Phone or write us—we'll be glad to arrange it.

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ALV-44

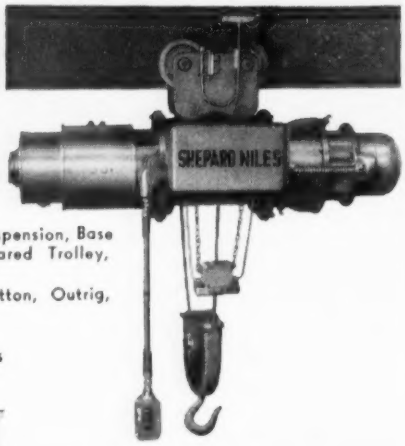
SOLVE MANPOWER PROBLEMS

with a SHEPARD NILES Electric HOIST

● One man replaces many — and moves more goods faster — with a Shepard Niles Electric Hoist. These sturdy hoists free valuable floor space, put waste ceiling area to work, enable an older man, woman or youth to handle heaviest loads with ease.

Learn how a Shepard Niles Hoist — in light, medium or heavy capacity — fits into your production picture. Call in the Shepard Niles representative — he'll make sure you get the right capacity and controls for your handling job.

TWO FAMOUS HOISTS



Heavy-Duty SHEPARD NILES Hoist

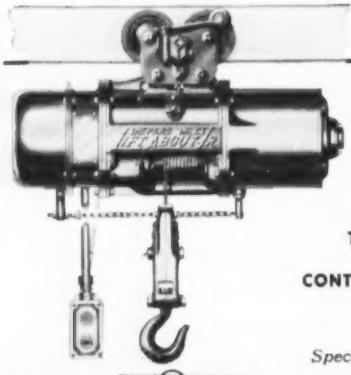
TYPES: Lug Suspension, Hook Suspension, Base Type, Push Trolley, Geared Trolley, Motor-driven Trolley

CONTROLS: Pendant Rope, Push Button, Outrig, Remote

CAPACITIES: 500 to 40,000 lbs.

SPEEDS: To meet your requirements

Write for Bulletin 127



LIGHT SERVICE, LOW COST

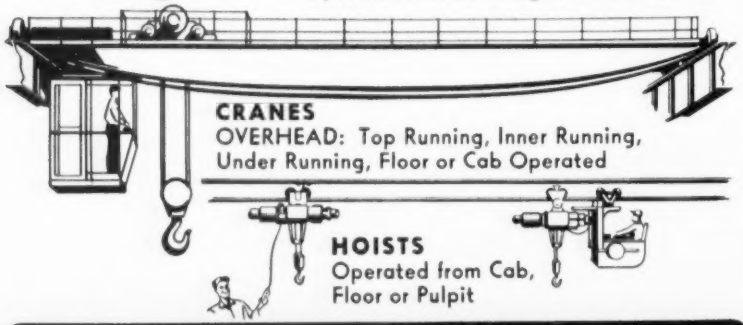
LIFT-ABOUT-JR.

TYPES: Lug Suspension, Hook Suspension, Push Trolley

CONTROLS: Single Speed, Push Button, Rope Control

Write for Bulletin 171

Specialists in loads through-the-air since 1903.



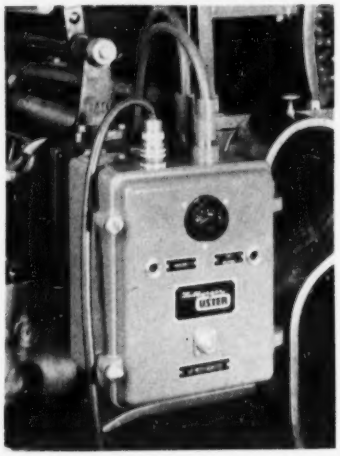
CRANES
OVERHEAD: Top Running, Inner Running, Under Running, Floor or Cab Operated

HOISTS
Operated from Cab, Floor or Pulpit

SHEPARD NILES
CRANE AND HOIST CORPORATION

1917 SCHUYLER AVENUE • MONTOUR FALLS, N. Y.

NEW Equipment AND MATERIALS



Close-up of picker equipped with Lap Vari-Meter, showing adapter for testing lap as it is made (Uster).

nected to the condenser by means of a heavy-duty cable.

Changeover switches are provided so that lab technicians can switch from one picker to another and still remain in the laboratory, eliminating the necessity for making a trip to the picker room to make the change.

The condenser may be applied to any unwinding device in the event installation on the picker is not desired. Disadvantage of this, however, is that lap must be secured and brought to the unwinding device; also, lap must be reprocessed since it must be unwound for testing.

Uster Corporation, 2516 Wilkinson Boulevard, Charlotte, N. C.

For additional data, request item A-114, using Handy Return Card on page 183.

Chromspun Acetate Fiber Available in Staple Form

Color-fast Chromspun acetate fiber is now available in staple as well as continuous-filament form. The staple fiber is offered in 9 colors: red, yellow, green, blue, black, gray, tan, brown, and orange. Blends of these colors afford a limitless range of additional hues and shades.

Chromspun staple is currently produced in 3 and 5 deniers, but other deniers can be made upon request. The staple can be cut to any length to meet the specifications required

for various spinning systems.

Immediate delivery of the 3 and 5 deniers in all colors is possible in either sample or production lots. Chromspun in tow form is also available.

It is believed that the advent of Chromspun staple fiber offers new design possibilities in all fabrics where color fastness is important. One of the major uses seen for Chromspun staple is in the drapery field, where the complete range of textures can now be met with acetate fibers of excellent fastness properties.

Tennessee Eastman Co., Kingsport, Tenn. (A-122).

Westinghouse slasher drive.

Multi-Motor Slasher Drive in One Lint-Tight Package

A new packaged-type multi-motor slasher drive using magnetic amplifier control is designed to provide high efficiency, reduced maintenance, and fine control of yarn tension during all phases of the slashing process.

Complete operation is controlled by push-buttons and a speed-setting rheostat. To compensate for shrinkage or stretch, the tension between sections of the slasher can be changed during operation.

Excitation for the d-c generator and all of the d-c drive motors is furnished by a static selenium-type rectifier. The magnetic amplifier that regulates the beam motor to give constant winding tension consists of selenium rectifier stacks and wire-wound reactors.

Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.

For additional data, request item A-304, using Handy Return Card on page 188.

Only Genuine

RIGID

PIPE WRENCHES

Guarantee you against wrench housing trouble and expense

Look for the wrench with that guarantee label to make sure you get the extra-easy work and extra durability that have made RIGID the world's most popular wrench.

Only RIGID assures you a hookjaw that always rides freely in the housing; adjusting nut always spins easily to pipe size. Replaceable alloy jaws won't slip or lock on pipe. Handy pipe scale on hookjaw. Safe stout comfort-grip I-beam handle.

Save work and money—buy genuine RIGIDs at your Supply House.

THE RIDGE TOOL COMPANY, ELYRIA, OHIO, U.S.A.

RIGID

Work-Saver Pipe Tools

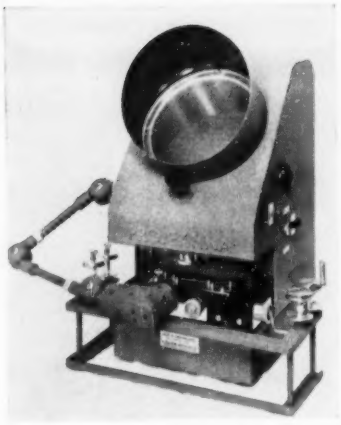
NEW Equipment AND MATERIALS

Fiber, Yarn, Fabric Measured, Counted, or Studied with Projection Type Instrument

Yarn, fiber, or fabric samples can be blown up 3 to 20 times and projected on an 8-in. diameter graduated glass screen for count, measure, or observation with the "Projectina," a new instrument made in Switzerland and now available in this country. Finely spaced lines on the screen permit actual measurement of fibers or yarns in either fractions of an inch or millimeters.

When the glass screen is replaced with an eyepiece, the samples are magnified 50 times, 100 times, and 400 times in three dimensions and in natural color.

The instrument functions as an episcopic, diascopic, or microscopic instrument as desired. In diascopy the subject can be examined through illumination in transparency, while in episcopy the sample is illuminated from above.



Sjostrom Machine's Projectina.

Sjostrom Machine Co., Lawrence, Mass. (A-306).

Redesigned Hook-On Volt-Ammeter

A redesigned hook-on volt-ammeter has higher voltage and current ranges and a new pointer-stop mechanism. Designated type AK-1A, the new instrument will measure alternating current instantaneously on five scale ranges: 0-7.5/30/75/-300/750 amperes. It can be used on both insulated and non-insulated conductors by simply hooking it around the power line. No separate transformers or additional equipment is required.

The instrument will also measure a-c voltage on three ranges: 0-150/-300/750 volts. To use these ranges, the terminals are connected to the line, and a positive-action selector switch is turned to the desired scale.

General Electric Co., Schenectady 5, N. Y.

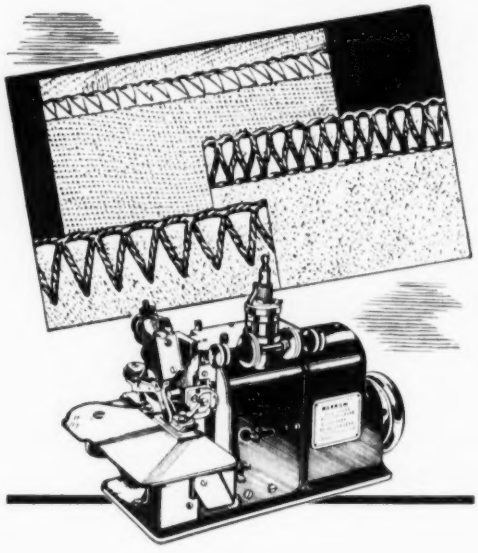
For additional data, request item A-501, using Handy Return Card on page 188.

Plastic Loom Picker Has Longer Life

A molded plastic picker recently placed on the market has longer life than conventional pickers, mill tests indicate. Resiliency of the picker permits proper boxing of the shuttle

MERROW FOR QUALITY
Overseaming · Overedging
Hemming . . .

Merrow Overstitching Machines reflect over 60 years' experience in the manufacture of industrial sewing machines. The term "Merrowing" . . . used throughout the industry to describe overstitching . . . is recognition of this experience and "know-how."
Illustrated are a few of the stitches possible with Merrow Overstitching Machines.
Let us demostrate the work of these machines on swatches of your fabrics.



Free illustrated folder available on request.

TRADE MARK REG
The MERROW MACHINE COMPANY
2805 LAUREL STREET • HARTFORD • CONN.

and, consequently, less damage to the shuttle.

Armstrong Cork Co., Lancaster, Pa.

For additional data, request item A-112, using Handy Return Card on page 188.

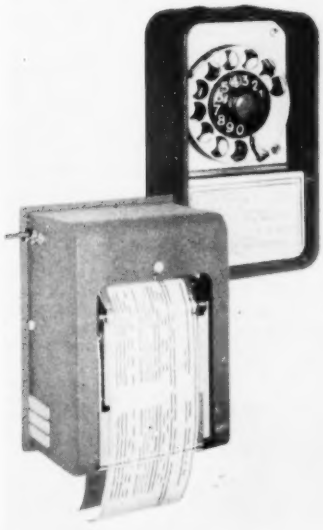
Instrument Provides Data for Continuous Study of Machine Efficiency

Efficiency of fly frames, spinning frames, looms, knitting machines, and other textile processing machines can be accurately determined by utilizing information provided by the "Centralograph," a development which has been used for many years abroad and is now available in the United States.

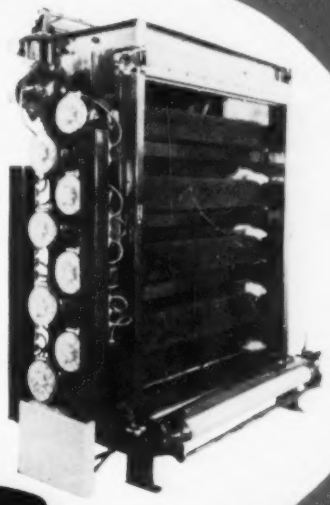
A graphic picture of the operation of a machine or group of machines is continuously provided by the apparatus. A line is traced on a piece of paper, known as a "Centralogram," when the machine is running. Breaks in this line tell when the machine was stopped, and code numbers denote stop reasons.

Here is how this is done: An electric impulse contact is mounted on each machine in the group. When the machine is actually producing, the contact sends impulses through a system of wires to the recording device (centralograph), which can be placed anywhere in the mill. On a telephone type dial, mounted near the machine, the operator dials the code number which applies to the reason for each particular machine

Centralograph dialing and recording mechanisms (Ericsson).



METLKOR® BRUSHES PREFERRED



NEW HERMAS MOTORIZED BRUSH

"Most of our customers prefer METLKOR BRUSHES," states the Hermas Machine Co., well-known manufacturer of clothroom equipment, "because:

"—The cores never warp or get out of alignment . . .

"—Bristles don't fall out . . .

"—Rolls are balanced to prevent whipping.

"—All of which is conductive to long brush life and even brushing."

Hermas uses METLKORS in this new motorized brushing machine, as they have in other Hermas brushes, because of their superior performance.

The metal cores, of aluminum, cold drawn steel, stainless steel, copper, or bronze, cannot sag, split, or get out of alignment.

Bristle is wound on the cores by our patented refillable process, firmly held with flat metal wire, and sealed with special baked plastic cement.

® Reg. U. S. Pat. Off.

M. W. JENKINS' SONS, INC.

Over Three-Quarters Century of Pioneering Brushes for Industry

Cedar Grove, Essex County, New Jersey

TELEPHONE Verona 8-5327

stop. This code number is transmitted to the centralograph by means of electrical impulses. An indicator on the dial marks the code number last reported.

The centralograph registers the effective working time of the machine, as well as the code numbers denoting the stop reasons, on a diagram paper which is continually moving at a constant speed.

Ericsson Telephone Sales Corp., 100 Park Ave., New York 17, N. Y.

For additional data, request item A-108, using Handy Return Card on page 188.

Pin Rover for Wool and Synthetics

Some of the features of the new Stellite Pin Rover for wool and synthetics are:

(1) Produces 10" x 5" bobbins; maximum number of spindles, 84.

(2) Maximum number of gilling heads, 21; single pin field with 32 fallers per head (pinning of fallers according to requirements).

(3) Three-roll drafting assembly;

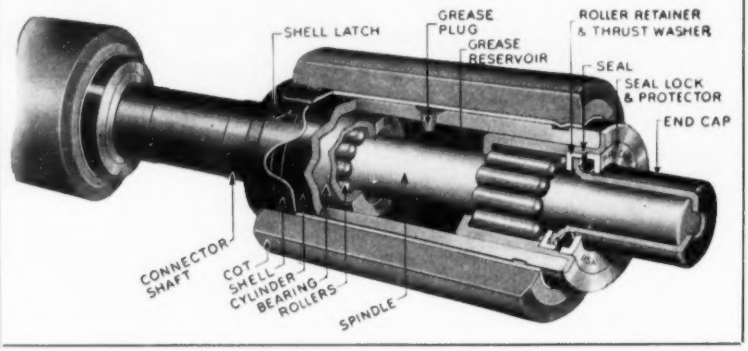
Anti-Friction Top Roll Has 3-Year Guarantee

Reproduced below is a cutaway view of the Precision anti-friction top roll described on page 125 of the November, 1952, issue of TEXTILE INDUSTRIES.

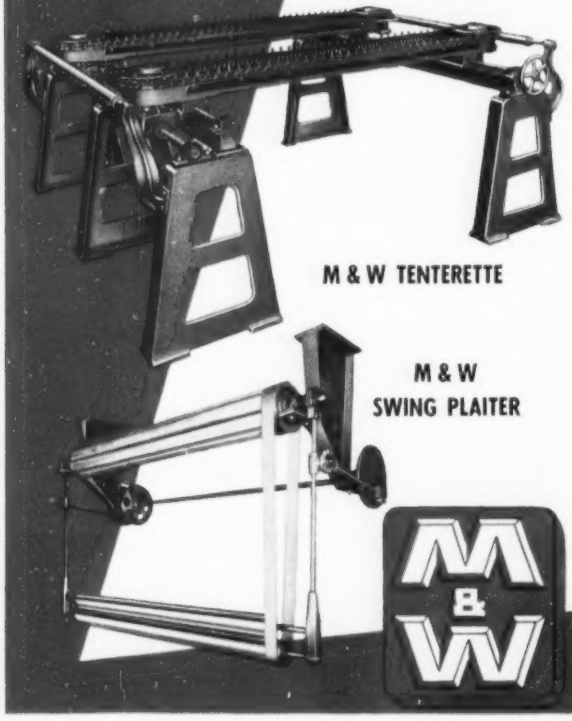
The roll is guaranteed for a three-year period, with 90-day free replacement; after that replacement is made on the basis of the number of months of service in relation to the three-year period. Beyond that, regardless of age, rolls have a small exchange value on the purchase price of new rolls.

Cole Engineering Corp., Columbus, Ga.

For additional data, request item A-309, using Handy Return Card on page 188.



M&W News for Cloth Finishers . . .



Besides our High Speed Tenter Frame, our Positive Overfeed with Selvage Guider, and the most complete line of tenter clips, M & W can supply you with —

TENTERETTES: Short tenters (30", 80" and 100" long), built to any maximum width, with either straight or hinged rails. Serves many useful purposes. Made *only* by M & W.

SWING PLAITERS: Anti-friction bearings throughout. Designed for easy installation in any location in your plant.

LET-OFF STANDS: Movable, with casters, or fixed base, swiveling for easy cloth alignment.

BATCHERS: Constant tension or tensionless.

Write For Details Today

We can promptly supply full data on these specialized M & W devices — advise you how they can be of utility in your plant, filling long-felt needs that no other machinery satisfies. Ask for details without obligation.

MARSHALL and WILLIAMS CORPORATION
PROVIDENCE, R. I. • Greenville, S. C. • New York, N. Y.
EXPORT AGENT: Francis H. Leggett & Co., 57 William Street, New York 5, N. Y.

total draft, from 5 to 17.

(4) Average delivery speed of draft roll, 26-30 ypm; spindle speed, 900 rpm.

(5) Full bobbin automatic stop motion; safety device to prevent machine from being started when headstock doors are open.

(6) Furnished with can or ball type creel.

Stellite American Corp., 60 East 42nd St., New York 17, N. Y.

For additional data, request item A-110, using Handy Return Card on page 188.

Recent Improvements in Ideal Drawing Equipment

Following are improvements that have been made in the Ideal High Speed Ball Bearing Drawing Equipment:

(1) All gears, including change gears, are of the spiral type;

(2) A new type of seal keeps lint out of ball bearings;

(3) A heavier calender roll bearing is utilized;

(4) Gold-finished spoons eliminate tagging;

(5) An evener motion for drafting rolls is available if desired (for description of the Ideal Evener for Drafting Rolls, see page 73 of this issue).

Ideal Industries, Inc., Bessemer City, N. C.

For additional data, request item A-117, using Handy Return Card on page 188.

Convert Plain Loom Bearings from Oil to Grease

Plain loom crankshaft bearings can now be easily and economically changed from oil-lubricated to grease-lubricated type, yielding for the mill savings in labor, lubricant costs, and machine downtime.

All that is required is a special punch for changing the taper of the oil hole in the bearing cap so that it conforms to the taper of a special grease gun fitting. Punch is placed in the oil hole and struck one or two blows until grease gun nozzle fits snugly and grease can be injected under pressure.

Keystone Lubricating Co., 21st, Clearfield, and Lippincott Streets, Philadelphia 32, Pa.

For additional data, request item A-113, using Handy Return Card on page 188.

Now is the time to modernize
HUMIDIFICATION
systems with
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HUMIDIFIERS
Install one or one hundred for economical spot, booster or plant-wide humidification
Specify Walton Humidifiers as an integral part of your modernization program for low cost, easily installed humidification. For a single small area or plant-wide service, Walton is the practical answer. The Walton system is simple to install, requires no expensive ducts, air lines or compressors and is easily relocated as plant layout changes. Uniform distribution can be maintained in areas of low or high ceilings, and filter-protected models are available for high efficiency operation under all lint and dust conditions.
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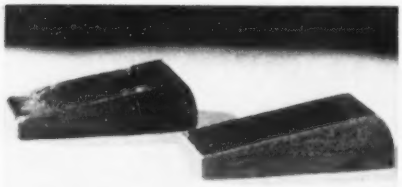
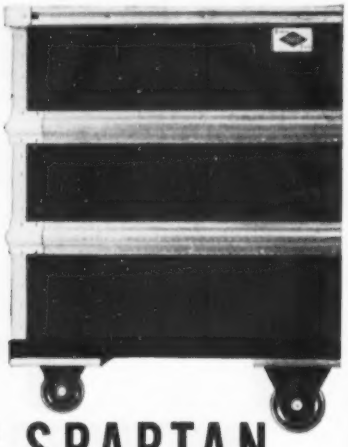
...From SPARTANBURG, S.C.

CDF TEXTILE NEWS



CELORON PARALLEL PLUGS

A canvas-based laminated plastic, made only by C-D-F, is used for molded parallel plugs that have high impact strength and are impervious to oil and water. The upper left plug was used for two years by a leading mill! Celoron does not require lubrication, never turns soft or spongy, lasts indefinitely. It does not fracture, chip, or delaminate. Write for sample.



THE SPARTAN

A side view of the industry's newest, best-built truck . . . the SPARTAN. Smooth Diamond Vulcanized Fibre sides. Curved center bands, rounded corners, well-riveted. Special no-snag top rim. Steel casters with heavy thread guard. *Write now for new folder showing complete C-D-F receptacles line!*

ALL PRODUCTS OF

Continental-Diamond Fibre Company
NEWARK 11, DELAWARE

. . . with Textile Headquarters at 834 Haynes Street, Spartanburg, S.C.
Call Spartanburg 3-6397 for CELORON gear blanks . . . material handling equipment . . . loom parts . . . service from your C-D-F sales engineer.

News in Brief

(Continued from page 65)

inches in length. The Roto-Drafter resembles a drawing frame and uses conventional-type top rolls in processing fibers under 2½ inches. When longer fibers are processed, some top rolls are replaced by a rotary comb.

ASTM 50-Year Index. The American Society for Testing Materials has issued a "50-Year Index to ASTM Technical Papers and Reports." The index covers proceedings from 1898 through 1950 and dozens of other special technical publications and books of ASTM.

41st Knitting Arts Exhibition. The National Association of Hosiery Manufacturers has announced that arrangements have been completed for the 41st Knitting Arts Exhibition which will be held in the Atlantic City Auditorium, April 27-May 1, 1953.

Customs Comes Clean. Raw wool buyers will be getting a big break on important grease wools as a result of changes the United States Bureau of Customs has made in methods of determination of clean content of wool for duty purposes. Recent rulings of the courts provide that clean content means commercial yield. This definition allows for wool fiber and weight lost in mill scouring and other cleaning processes. According to one estimate, duties assessed on imports of raw wool and hair will drop as much as 2 per cent, with burry wool users benefiting most. Since October 8th, Customs has used the new scale for figuring duties.

New Sewing Machine. A new type of sewing machine has been patented in Western Germany by Dipl. Eng. Hand Vieten of Trier, who claims that it is possible to sew or weld synthetic fiber materials on the machine by means of a high frequency needle. It is expected that the machine will be of interest to those who sew synthetic fiber fabrics. The heat which is necessary for welding the fibers is not produced from an outside source but is created within the material by means of high frequency induction. Patent No. 8899 covers the development.

Data on Fiber Properties. Research Report No. 18, titled "Fiber Properties of the Cottons of the Interior Coastal Prairies of Texas Crop of 1952," is available. Requests should be addressed to Cotton Merchandising Research, The University of Texas, Austin, Texas.

Fiber and Spinning Test Results. The U. S. Department of Agriculture, Production and Marketing Administration, Cotton Branch, has issued supplement No. 2 to "Fiber and Spinning Test Results for some Varieties of Cotton Grown by Selected Cotton Improvement Groups, Crop of 1952." This supplement contains results for cottons that have been harvested and tested since publication of the earlier reports.

Plastics Show Increase. A 7 per cent increase for plastic-coated fabrics and a 14 per cent increase for all-plastic sheeting 10 mils and over has been noted in the volume of shipments for the first 9 months of 1952 as compared to the same period of 1951, according to the Plastic Coatings and Film Association. 32,390,016 linear yards of plastic - coated material were shipped in 1952 as compared to 32,092,860 yards in 1951. 42,724,269 square yards of all-plastic sheeting were shipped in 1952 as compared to 37,178,519 yards in 1951.

Rapid Transit Advertising. Stehli and Co. in Lancaster, Pa., has dreamed up a new approach to the problem of alerting weavers to the importance of cleanliness and expertness at the loom. Taking a cue from the technique of street car, bus, and subway advertising in which high pressure sales blurbs are posted at eye level of a captive audience, officials had several quality-conscious slogans printed in big red letters on two foot long

stickers. These were pasted to the front top of the first harness on each loom. Reading "Clean Hands and Clean Cloth Mean Quality," "Quality and Perfection Help Sales," "Quality Insures Sales and Employment," and the like—the bobbing appeals have the same degree of urgency as a schoolboy's hand waving for "permission to leave the room." Weavers are constantly reminded of their contribution and so far, the device of the flickering stickers seems to be working. Seconds due to soiling have been reduced.

French Fiber Simulates Wool. Three French chemists, M. Gabriel Varndorpe, M. Mirabel, and M. Remy, have produced a fiber from maize (Indian Corn), and the fiber resembles wool in appearance under a microscope. An ultra-sonic treatment is administered to produce the wool-like scales on the synthetic fibers. The scales measure 10 microns in diameter, compared to 20 microns for wool. The ultra-sonic treatment to produce the scales may be suitable for adaption to other chemical fibers. Low production cost is a feature claimed for the new fiber and process.

Conditioning Apparatus Patented. Patent No. 2,606,372, "Apparatus for Conditioning Material," has been issued to H. B. Foulder and George Millspaugh, assignors to the Industrial Dryer Corporation, Stamford, Conn.

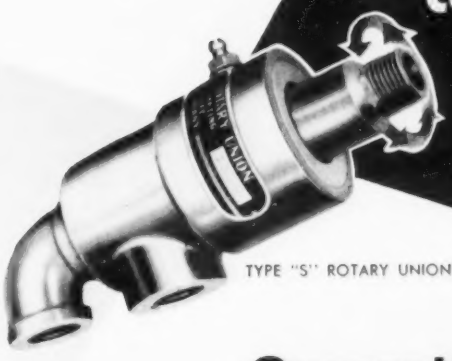
Support of Wool Research Renewed. The Wool Bureau, on behalf of its affiliate, International Wool Secretariat, representing wool growers of the British Dominions, has renewed its support of the wool research program initiated at the Textile Research Institute four years ago. The Bureau has paid $10,000 as the first semi-annual contribution in support of the program.

Port Facilities at Savannah, Ga. Textile men were among those who watched with interest the recent dedication of Georgia's $15,000,000 port facilities at Savannah. The port already has tentative commitments for the handling of about 350,000 tons of cargo next

ROTARY UNION
(REG. TRADE MARK)

a revolving steam connection

PIPE SIZES 1/4" THROUGH 3"



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If you are still using old fashioned stuffing boxes or packing joints—or the types of steam joints which need constant tightening and adjustments—try ROTARY UNIONS on your slashers, dry cans, embossers, printing, or coating machines.

The ROTARY UNION is *guaranteed* to give perfect sealing service for one year without requiring mechanical maintenance of any sort . . . and many have been in service three times that long without such attention. You save maintenance, labor, and downtime by using ROTARY UNIONS.

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year and is expected to play a major role in the industrial development of the South.

Invisible Fastener? In Western Germany a new type fastener is termed "invisible." Manufactured by the Flachverschluss GmbH., (Flatfastener Co.) in Hamburg, the new fastener is sewn to the garment on the underface of an overlapping fold. The difference between this and zip fasteners is that whereas the zip fastens edge-to-edge, the new fastener fastens face-to-face. No slide is required to make the fastening and it is claimed that a firm and more flexible fastening is possible with the new device. The fastener is sold by the meter and is made from corrosion resistant steel mounted on 100% Perlon fabric which in turn is fastened to a cotton strip which is sewn to the garment.

Materials Exposition Scheduled. An international "Exposition of Basic Materials for Industry" is planned to present under one roof the whole range of new materials flowing from the laboratories of industry and needed for product development. The show will be held in New York at Grand Central Palace, June 15-19, 1953. Top executives of 20 major companies are on the sponsoring board.

Plant Location Brochure. To aid company management and engineers in the selection of the one location for a new plant that will offer the best combination of factors affecting total production cost, a brochure has been published entitled "Factors Influencing Industrial Plant Location." Copies of the brochure are available on request to Walter Kidde Constructors, Inc., 140 Cedar St., New York 6, N. Y.

Silk and Rayon in Greece There are 21 silk and rayon weaving firms in Greece today. Before the war, 90% of production was in silk, but today most of the firms have turned to filament rayon production. In 1949 silk production

in Greece was 120 tons, compared to 275 tons before the war. Rayon, on the other hand, reached a production level of 1,000 tons in 1949, compared to 825 tons in 1948. Today there are plans to meet the steadily increased demand for rayons by both Greek and American concerns who may extend production. With the assistance of a German technician, the Greek firm Etma is planning production of rayon staple. It is estimated that by 1955 Greek production will be 2,000 tons of filament rayon and 4,000 tons of rayon staple. In 1949, domestic production of silk cloth was 50,000 meters; of rayon cloth, 600,000 meters, and 1,600,000 meters of mixture fabrics.

patchwork wiring is Expensive!
The cost of patching an old wiring system—a bit here and a piece there whenever the need arises—may not show up big month by month but the annual cost may be great enough to eat into your profits.
Add to this the possibility of costly breakdowns and consequent loss of production, loss of electrical power through inadequate cable, and more bits and pieces expenditures in the months to come, and you have powerful reasons for investigating the economy of a rewiring program which will serve you for many years to come.
We will be glad to work with you or with your consulting engineer on such a money saving program.
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ELECTRICAL CONTRACTORS
BRYANT ELECTRIC COMPANY, Inc.
High Point, N. C.
BRYANT-DAVIS ELECTRIC CO.
Greenville, S. C.

World Cotton Trade Up. World cotton exports of 12.3 million bales (500 lb gross) in 1951-52 were higher than in 1950-51 by about 300,000 bales or 2.5 per cent. Exports from non-communist countries were 200,000 bales higher than a year earlier. Increases totaling about 700,000 bales in exports to India, France, China, Spain, and Portugal more than offset decreased exports to nearly all other countries. World cotton supplies available for export in 1951-52 were higher by about 2 million bales than in 1950-51 when tight supplies resulted in a rise in prices of foreign growths to a level more than double any previous year.

Industrial Water Supply Studied. The Department of the Interior has published the first three of nine preliminary reports containing data on the public water supplies of more than 1,200 cities, gathered by quality-of-water specialists of the Geological Survey. The series will review the quality of water furnished to the larger cities of each State.

What the TEXTILE MILLS are doing

Acushnet Carpet Mills, New Bedford, Mass., previously a rug weaving operation, have started a wool carding and spinning plant.

Alamac Knitting Mills, Inc., Indian Orchard, Mass., has leased a one-story building with 25,000 sq ft floor space, for expansion in the dyeing and finishing division.

Ardross Worsted Co., Philadelphia, Pa., has been liquidated and the mill and equipment sold at auction.

A new cotton spinning mill is being erected in Mercedes, Buenos Aires Province, Argentina. The plant has been shipped from Japan and is being erected under the direction of Japanese technicians.

Billy Hugh Taylor, whose mother is employed at Alabama Mills, Inc., Winfield, Ala., has won the **Anchor Rome Mills** Foundation College Scholarship Award. This scholarship, up to $1,000 per year, is being awarded each year to an employee or child of an employee of Alabama Mills.

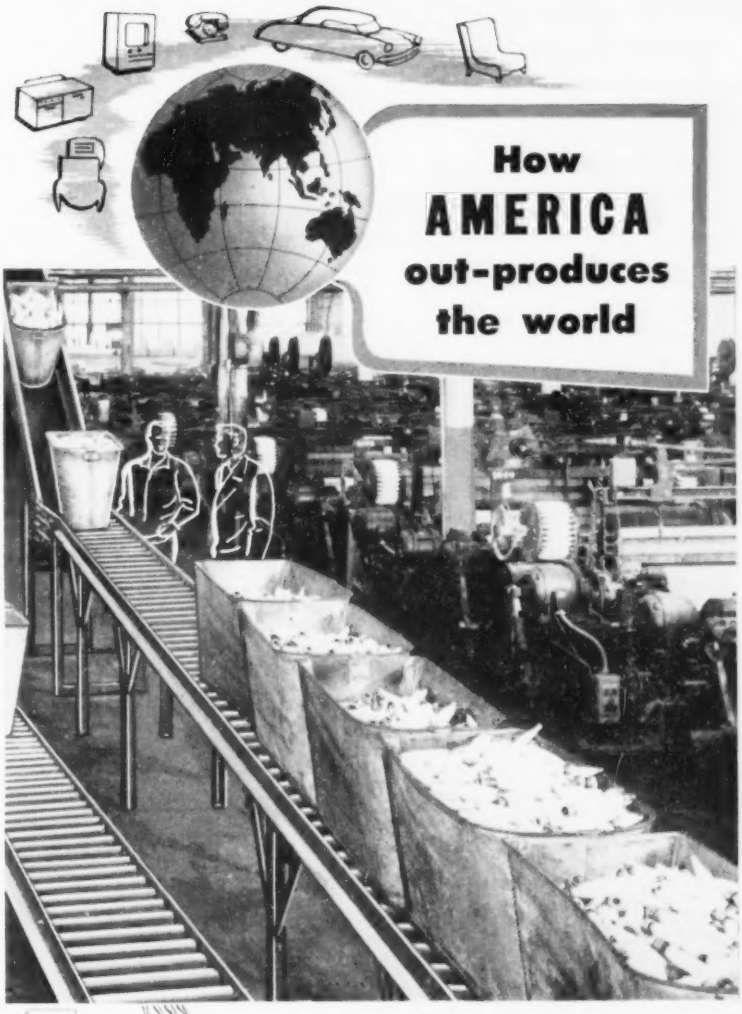
Atlantic Tubing & Rubber Co., Cranston, R. I., braided tubing, etc., plans construction of a one-story addition to the mill.

A two-story addition to the North Seekonk, Mass., mill of the **Attleboro (Mass.) Dye & Finish Corp.** is under construction.

Beacon Hill of North Carolina, Inc., was recently chartered by Elliott Baron, Hendersonville, N. C., John H. Boss, Biltmore Forest, N. C., and others, to manufacture rugs and carpets.

A one-story mill on Asheville Highway, Greenville, S. C., is under construction by **Belrug Mills, Inc.,** cotton floor coverings, to be equipped for increased capacity. W. W. Pate is president.

The new plant of **Berkshire Knitting Mills,** Andrews, S. C., will produce 10,000 dozen pairs of hosiery weekly, according to reports. It has a floor space of over 71,000 sq ft, completely air-conditioned, and houses 48 30-section full-fashioned knitting machines, both 51 and 60



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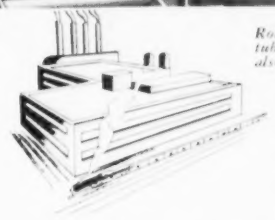

Roller and Belt Conveyors handling battery filler tubs to and from 4th floor spinning room. System also serves 1st and 2nd floor weave rooms.

American industry — keeps expensive equipment operating at capacity

Another good American industrial habit — stepping-up the hourly output of machines! This means greater production, and lower-costs too.

One of the chief factors in "keeping machines busy" in textile mills is equipment like Logan Conveyors. By delivering a stream of material to machines and dispatching it to the next operation, Logan equipment aids in attaining the high American textile output per machine-hour.

And remember, the name "Logan" on the installation you buy is your assurance of something extra in engineering, design, and layout. Write today to —

Logan Conveyors

LOGAN CO., 206 CABEL ST., LOUISVILLE, KY.

What the TEXTILE MILLS are doing

gauge. Hosiery will be dyed and finished in Reading, Pa.

Bonte Spinning Co., Inc., recently chartered, has leased space in the former mill of Riverside Worsted Co., Woonsocket, R. I. Woolens and worsteds will be manufactured. Eugene A. Bonte is president.

A one-story building at Glen Alpine, N. C., has been acquired by **Brown Brothers Hosiery Mills,** for a branch mill. An affiliated company, known as **John Hosiery Mills, Inc.,** will operate it.

Peerless Woolen Mills, Inc., Rossville, Ga., has been purchased by **Burlington Mills Corp.** It is understood that operations will be continued as heretofore.

Clayton Carpet Mills, Spartanburg, S. C., have begun manufacture of woven cotton carpets. Lewis Clayton is head of the company. L. A. Every, formerly with Samarkand Mills, Inc., has been appointed superintendent.

Clinton (S. C.) Cotton Mills have plans for a new addition to the No. 2 mill, completely air-conditioned, to be equipped for increased capacity; also a one-story extension for storage and distribution.

Dan River Mills, Inc., has discontinued operations at its Norfolk, Va., rayon weaving mill and transferred production to Danville, Va. The company has acquired 604 acres of land in Pittsylvania county for development into a recreation park for its employees. It will include a 100-acre lake for fishing, boating, and swimming.

The Flagg Knitting Co. and Utica Knitting Co. have been combined under the name **Flagg-Utica Corp.**

Glen Raven (N. C.) Knitting Mills have begun production of fine gauge tricot fabrics in their new mill unit, operated as the tricot division.

Globe Knitting Works, Grand Rapids, Mich., has changed its name to **Modern Globe, Inc.** Production facilities are being modernized. Robert E. Heyn has been named sales manager.

Greenville (N. C.) Full-Fashioned Hosiery Mills, Inc., has been organized to take over company of the same name, specializing in women's full-fashioned hosiery. R. H. and Mrs. F. G. Scheller are officials of the new organization.

Guilford (Me.) Woolen Mills have added two floors to their main building for installation of new high speed looms. They have also modernized their finishing department.

Richard K. Gregory, 8 West 40th Street, New York, N. Y., is attorney and representative for **Hercules-Carnation Knitwear, Inc.,** recently chartered for the manufacture of outerwear.

Construction is under way at **Ilena Mills, Inc.,** Chattanooga, Tenn., of a one-story addition to the mill.

Imperial Tricot Mills, Inc., was recently organized to operate a tricot knitting mill. Nathan Mann, 29 South Walker St., Lowell, Mass., is president.

Knitables, Inc., was recently incorporated to operate a mill for manufacture of knit outerwear. The new company is represented by Paul J. Edwards, 70 Pine St., New York, N. Y.

James Lees and Sons Co. is increasing its product lines with the addition of cotton carpet broadlooms.

Lowell Textile Institute has established a Senior Career Room whose purpose is to make available to the graduating class all possible information concerning various textile, chemical, engineering, and similar companies so that students, before being interviewed for positions, may study the background, scope, and policies of the different organizations. The room contains literature, pictures, financial reports, product samples, organization charts, and other data concerning manufacturing plants in all parts of the country.

Mal Eno Fabrics, Inc., Santurce, P. R., recently chartered, is operating a mill for manufacture of rayon fabrics. The company is headed by Mal L. and E. H. Eno.

Mills Manufacturing Corp., 569 Broadway, New York City, has plans for establishment of a branch plant at Woodfin, near Asheville, N. C., for manufacture of parachute cloth and parachutes.

Newnan (Ga.) Cotton Mills have installed new dyeing equipment and are putting in new spinning machin-

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Model 3-408-16 caster with thread guards, designed especially for the needs of the Textile Industry.

Rolling stock that doesn't roll easily cuts efficiency and profits in your mill. Colson *specializes* in wheels and casters engineered for the Textile Industry. They roll easily over all floors, are rust-resistant—many models have thread guards. Colson also manufactures a wide range of trucks for the Textile Industry—hand trucks, platform trucks, box trucks, drum and barrel trucks and special devices. Write us or consult your phone book for the Colson representative near you.

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ery and auxiliary equipment, as part of the general improvement program in progress.

Nolde & Horst Co., Reading, Pa., plans to consolidate all operations at Womelsdorf, Pa., where it now has a branch mill.

North American Lace Co., Inc., Philadelphia, Pa., has an addition to the plant under construction.

Gourdji Ishac, 157 Glenbrook Parkway, Englewood, N. J., is principal incorporator of **Parilace, Inc.,** recently organized for the manufacture of machine laces.

Phoenix Knitting Mills, Philadelphia, Pa., have placed in service a number of new knitting machines and auxiliary equipment, for increased operations.

Burton Brothers, Inc., manufacturers of poplin, has been acquired by **Reeves Brothers, Inc.** Fabrics will be distributed under the same trade names as formerly and through the Reeves sales organization.

Rock River Woolen Mills, Inc., Jamesville, Wis., has an addition to the mill under construction, to be used for storage.

The real estate, machinery, and equipment of **Shannock Narrow Fabrics Co.,** Pawtucket, R. I., were recently sold at public auction.

Skyland Textile Co., Morganton, N. C., has leased newly-constructed buildings at Forest City and West Jefferson, N. C., to be occupied as branch mills.

A one-story addition, totaling about 16,000 sq ft floor space, is under construction at **Spencer (W. Va.) Manufacturing Co.** It will be owned by Spencer Development Co. and occupied under long term lease.

Purchase of additional textile machinery costing more than a million dollars has been made by **Springs Cotton Mills.** The machinery will be installed in the Eureka and Gayle plants in Chester, S. C., and in the Grace Bleachery, near Lancaster.

Stillwater Worsted Mills, Inc., has purchased Harrisville Co.'s wool combing plant, including equipment, land, and warehouse space.

Eagle Knitting Mills, Milwaukee, Wis., have under construction a four-story addition to the plant, for increased production.

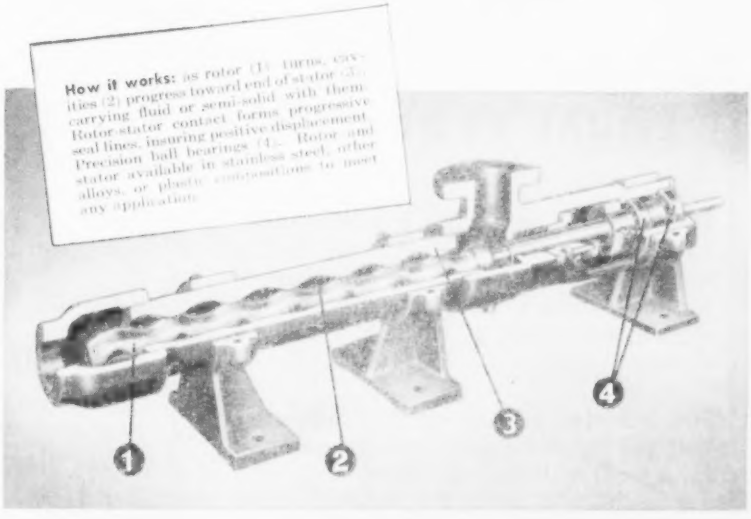
Wehadkee Yarn Mills have purchased the **Talladega (Ala.) Cotton Factory.** It will be known as the Talladega Mill Division, and will have Jack Swann as general manager.

Employees of the Buffalo (S. C.) plant of **Union and Buffalo Mills** have a record of working over 2,000,000 man-hours without a lost time accident.

Vaughan Knitting Co., Pottstown, Pa., has leased a one-story building at Bakersville, N. C., to be used for a branch mill.

Dorr Woolen Co. has completed a two-story addition to its plant.

In conjunction with the Vocational Rehabilitation Unit of the Alabama Department of Education and the School for the Deaf and Blind at Talladega, Ala., **West Point Manufacturing Co.** is sponsoring a new class in crafts for the severely handicapped and the blind. The sessions will continue throughout the school year or until the participants are able to be self-supporing in their own homes.


How it works: as rotor (1) turns, cavities (2) progress toward end of stator (3), carrying fluid or semi-solid with them. Rotor-stator contact forms progressive seal lines, insuring positive displacement. Precision ball bearings (4). Rotor and stator available in stainless steel, other alloys, or plastic compositions to meet any application.
1
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3
4

If your pump requirements are a little different . . .

The entirely different MOYNO® Pump may be exactly what you need!

FACTS ABOUT THE MOYNO
the world's simplest pump

- **Positive Displacement**—available to pull up to 29 inches of vacuum; while discharging under pressure. Big Moynos deliver up to 250 g.p.m. at 600 p.s.i.
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- **Reversible**—pumps just as well either way.
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If your materials are viscous, semi-solid, hard to move . . . if they're abrasive or tend to disintegrate . . . find out why Moynos handle jobs where other pumps fail!

The Moyno Pump represents a completely new and different concept of pump design. The cutaway above—and facts at left—show you why it's a pump you can install and *forget.*

And, chances are this versatile pump can solve your problem. Moynos pump clay for a leading pottery maker. They're being used for pumping caustics . . . white water in paper mills . . . even for pumping potato salad!

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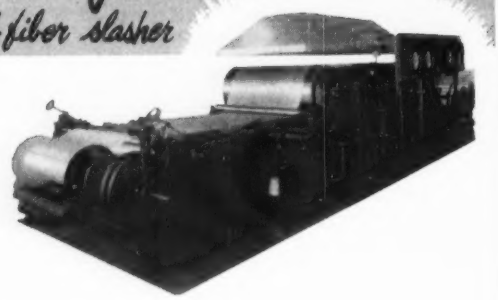
Leading Cotton Mill
replaces 3 cotton slashers
with 1 Johnson
all-fiber slasher



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EQUAL PRODUCTION

Determined to cut costs in its slasher room, an important southern cotton mill had us work with them to determine the cost of replacing three old cotton slashers with a modern ALL-FIBER JOHNSON 9 cylinder slasher.

The indicated savings were so impressive that this mill immediately placed an order for a modern Johnson machine.

Labor, steam, floor space, and replacement part requirements are sharply reduced. Better cotton warps are assured. Loom production is increased. If the mill decides to go into synthetics, it has a machine that will do a superior sizing job on rayon, spun rayon, acetate, nylon, orlon, and other yarns — at high production speed.

If you are interested in lowering your sizing costs, write us about our Johnson Sizer Check-up. It may uncover large savings in your slasher room. No obligation is involved.

Charles B. Johnson

PATERSON, NEW JERSEY

REPRESENTATIVES

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For the South: Lucas Associates, Inc. Charlotte 1, N. C.

THE STARCH
USED IN A
WELL BALANCED
WARP SIZE
REFLECTS THE INTEGRITY
OF THE PRODUCER

CLINTON CORN STARCH
HAS THE QUALITY WHICH
MAKES IT
A SOUND BASIC INGREDIENT
FOR

BETTER SIZING
AND
WEAVING

CLINTON

CLINTON FOODS INC.
CORN PROCESSING DIVISION
CLINTON, IOWA

Personal NOTES ABOUT MEN YOU KNOW

J. H. Alexander has left the Kershaw branch of Springs Cotton Mills to accept a position with Abney Mills, Greenwood, S. C. Succeeding him at Kershaw is **Mitchell Clark.**

William C. Ross, now general superintendent of the Mascoma Mills of the American Woolen Co., Lebanon, N. H., was previously with the Walther Manufacturing Co.

Thomas F. Johnson, formerly with William Whitman Co., Inc., has joined the National Association of Wool Manufacturers as administrative assistant to the executive vice-president.

C. M. Scruton, previously resident manager of Utica Knitting Co.'s mill number 9 at Anniston, Ala., has been appointed manager of production of all the company's mills. He will make his headquarters at Utica, N. Y.

Edward L. Daniels has been promoted from quality controller to superintendent, knitting department,

Mr. Daniels

at Airmaid Hosiery Mills' New Braunfels, Texas, mill. He succeeds Richard E. Barth, resigned.

Jack H. Scott, formerly plant superintendent, has been made general superintendent, Plant No. 6, Durham (N. C.) Hosiery Mills. He succeeds the late D. F. Burns.

Ralph M. Gutekunst, formerly treasurer, was recently elected vice-president of Hellwig Dyeing Corp. **Francis J. Gutekunst** was given the duties of treasurer in addition to those of secretary.

Burlington Mills have announced the election of **E. R. Zane, Sr.,** Greensboro, N. C., to the board of directors. **Walter E. Greer,** formerly vice-president, was made executive vice-president of the firm. Other Burlington promotions are: **Clifton Karnes,** head of the quality control department at the Greensboro laboratory; **Paul Jones,** administrative assistant in packing and shipping at Cramerton; **Jeff Capes,** second shift supervisor, Plant One dyeing department, Piedmont Heights; **Charles Way,** head of the McLaurin order and billing department; at Flint, **Herb Hattaway,** general overseer of spinning, and **Bill Burrows,** detail assistant to superintendent Gunter; **James Isley,** at Grabur, foreman of the third shift; **Alfred Ellington,** detail assistant to general superintend-

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Don't Be Cramped

If you are sharing in the Renaissance of the South, why let slow moving working capital deter your growth?

Let Crompton Factoring accelerate your capital turnover by giving you continuous cash for your receivables. Thus you don't have to wait for collections or be involved with a collection overhead . . . you are keeping your bank balance at a continuous peak. You are ready for more business . . . for opportunistic buys. Thus you can hold on to your inventory until a better opportunity presents itself.

The Human Factor

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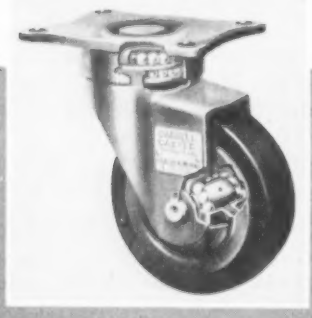
Textile Men in the "know" DEMAND

DARNELL
CASTERS & WHEELS

String-guards and Neoprene Rubber Treads make these casters "super" for use in textile mills. Easy Rolling plus a Darnell-designed bearing seal to keep out foreign matter provide economies in maintenance and operation appreciated by mill owners and operators alike.

FREE MANUAL



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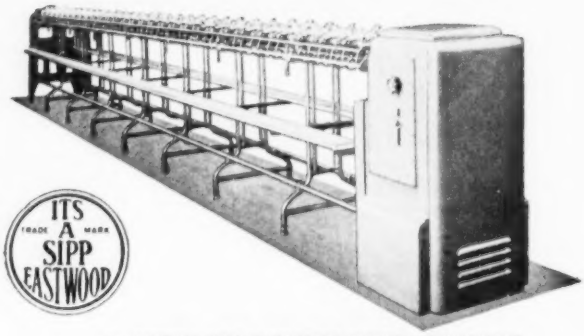
For Perfect Spools at Higher Speeds-

SIPP-EASTWOOD
WINDER-REDRAW



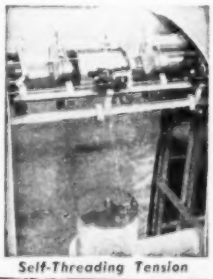
ITS A TRADE MARK SIPP EASTWOOD

- **WITH SELF-THREADING TENSION**
- **SELF-OPENING SPINDLELESS ATTACHMENT**
- **FULL SPOOL STOP MOTION**

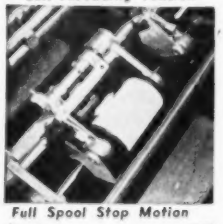
Deliberately designed for perfect spools at higher speeds and greatest possible automatic operation. This brand new winder-redraw requires a minimum of attention during operation and is easy to clean and maintain.

FEATURES:

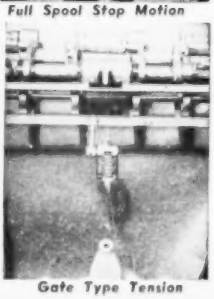
1. **Washer type self-threading tension** fastened to traverse rail is easily adjustable and quickly cleaned. Eliminates all threading operations.
2. **Gate type tensions** available with self-threading Alsimag guides for nylon.
3. **Full spool stop motion** prevents overrun bobbins.
4. The drive and traverse mechanism is enclosed in one complete unit and is lubricated by a circulating oil bath.
5. Traverse adjustment is independent on each side of machine and can be adjusted from 3½" to 7" traverse without changing cam.
6. Speed changes are readily accomplished through the use of a hand-wheel.
7. Winds per stroke easily adjustable.
8. Single or double drive self-opening spindleless brackets are available.
9. Easily changed for "S" or "Z" twist by use of reversing switch.
10. Tachometer available for easy speed readings.



Self-Threading Tension



Full Spool Stop Motion



Gate Type Tension

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Producers of Superior Equipment for Textile Processing
45 KEEN STREET, PATERSON, N. J.

ent Summerell at Cramerton, and **James Rotan,** supervisor of the second shift carding department; **George Kiser,** Marion, assistant supervisor in the grey goods department; **William J. Bowman,** head of the manufacturing operations at the recently acquired Sarfert Hosiery Mills, Inc.; at Dublin Finishing, **Sterling F. Watts, Jr.,** finishing shift overseer; **Willie A. Norton,** St. Pauls Rayon, second hand.

Elliott J. Neal, vice-president of Aberfoyle Manufacturing Co., has been elected president of the Carolina Yarn Association. Other new officers, all from Charlotte, N. C., are: **John L. Stickley,** vice-president; **J. M. Ulmer,** E. I. du Pont de Nemours & Co., Inc., secretary; and **Alex S. Hanes, Jr.,** American Viscose Corp., treasurer.

James G. Law, vice-president and general manager of Magee Carpet Co., was recently elected chairman of the board of trustees of the Carpet Institute, Inc. Newly elected to the board was **Herbert Adair,** president of Artloom Carpet Co., Inc.

Robert W. Armstrong has resigned from Dan River Mills, Inc., after eight years with the firm. **Roy M. Stephens** has been promoted to superintendent of the Riverside division.

Arthur Shook has been named resident manager of Dresden (Ohio) Mills, Inc.

Abel Caissie, formerly with the now defunct Moodus Woolen Mills, has joined Fine Fabrics, Worcester, Mass., as boss carder.

Jewett T. Flagg, president of J. T. Flagg Knitting Co., Inc., was elected president and chief executive officer of the Utica Knitting Co., following the decision to combine the two firms under the name Flagg-Utica Corp.

Vern Violet, formerly at Wyandotte Worsted Mills, is now overseer of carding at Hayward-Schuster Woolen Mills, East Douglas, Mass.

I. M. Gross has been made vice-president in charge of sales of Hadco Mills Corp.

Howard Wilcox, formerly with the Atlanta (Ga.) Woolen Mills, is now yarn superintendent of Kenwood Mills, Cavendish, Vt.

David J. Thompson has retired as director of sales training for A. & M. Karagheusian, Inc., after forty-five years with the firm.

Donald Gordon, previously with Lawrence Manufacturing Co., is now general manager at Maine Spinning Co., succeeding Fred Greenwood. **Howard Kenyon** has taken Mr. Gordon's place at Lawrence.

Professor John E. Foster has succeeded George Walker, retired, as

Mr. Foster

president of the New Bedford Textile Institute.

Joseph H. Collins succeeded George R. Currier, retired, as superintendent of dyeing at Massachusetts Mohair Plush Co.

Fielderest Mills have announced the following promotions: **Harold Squires,** formerly assistant foreman

Personal NOTES ABOUT MEN YOU KNOW

on the second shift in the blanket cloth inspection department, to assistant foreman in the blanket weave room; **Clay Barrow,** formerly loom fixer, to assistant foreman of the cloth inspection department, second shift; **Jack Jarrett,** formerly a weaver on the third shift at the sheeting mill, to assistant foreman of the cloth inspection department, second shift.

At the 12th annual meeting of the Granite State Overseers Association, **Harold Hitchcock,** overseer of knitting at Brookshire Knitting Mills, was elected president. Other officers elected were: **Ralph Dunford,** overseer of weaving at Amoskeag Mill, 1st vice-president; **Earl Simmons,** 2nd vice-president; **Leroy Baynes,** treasurer; and **Ed Donovan,** secretary.

E. Hanes Rogers has been promoted to the newly created position of sales engineer of Fulton Bag & Cotton Mills, and will coordinate product developments between the engineering and sales department in

A Superior Blanket Washer Brush

With Herringbone Bristle for Nylon-Faced Blankets

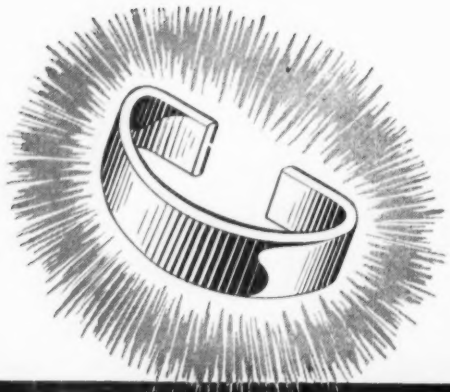
Increases efficiency because of the diagonal arrangement of the bristle. This diagonal arrangement parallels the diagonal grain of the nylon-faced blanket, presenting a continuous wall of bristle to carry the water to the blanket.

This assures cleaning so thorough that a white handkerchief stays white when wiped over the surface of a cleaned blanket.

This new brush has the metal core and other features that make INDUSCO brushes longer lasting and dependable for every textile brushing purpose.

INDUSTRIAL *Brush Company*

WOODSIDE AVENUE • LITTLE FALLS, NEW JERSEY



DARY
Ring Travelers

HOW DO YOU KNOW?

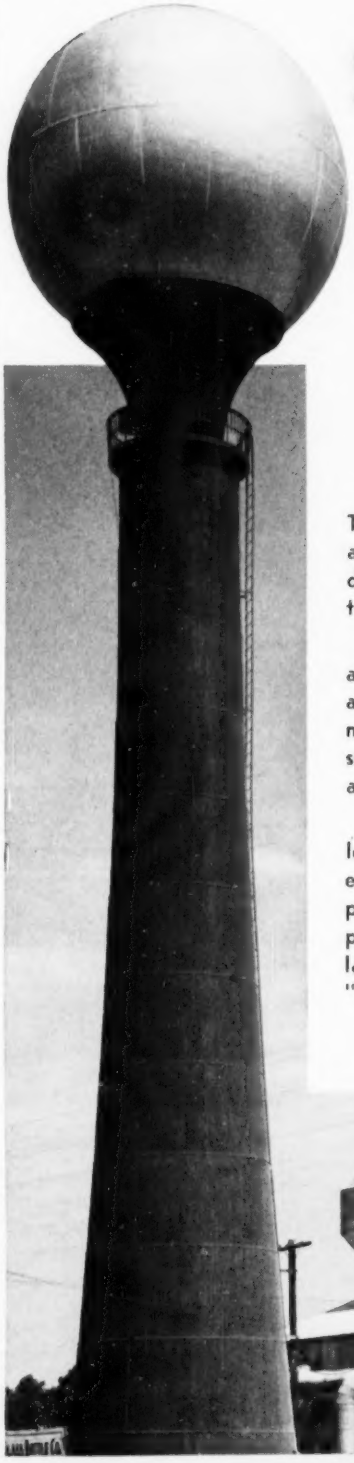
How do you know what ring travelers to use—when new fibres pose new problems?

Your simplest short-cut to a solution is to ask your friendly Dary representative. He is a specialist in problems of spinning and twisting. And our fifty years of experience back up the counsel he offers you without obligation.

Always Specify
DARY Ring Travelers

THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS

LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD RHYMER, BOX 2261, GREENVILLE, S. C.

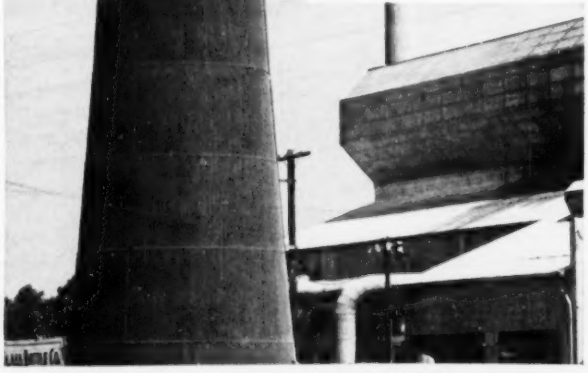


SPHERICAL TANKS ON TUBULAR TOWERS

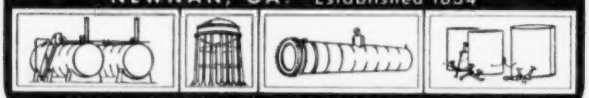
The COLE Spherical Tank on Tubular Tower is a pioneer in its field. We design and erect special tanks of this character.

This design provides an attractive and serviceable unit—economical to maintain, efficient in service and pleasing in appearance.

Write for special booklet on these modern welded Spherical Tanks which provide gravity water pressure, and for copy of latest COLE catalog — "Tank Talk."



R. D. COLE MFG. CO.
NEWNAN, GA. *Established 1854*



Atlanta and in the branch plants throughout the country.

Lucius J. Denice of Dorr Woolen Co. was recently elected president of the Green Mountain Textile Overseers' Association. Other officers are: **Elphege Keroack** of American Woolen Co., vice-president; **Dallas Hutchinson,** Kenwood Mills, treasurer; and **Guy Morse,** secretary.

Andrew Dale has replaced Theodore Redstreake, retired, as head Axminster designer for A. & M. Karagheusian, Inc.

J. C. Cummings has replaced R. L. Clapp, retired, as chief electrician of Cone Mills Corp. He was formerly with Bryand Electric Co., High Point, N. C.

Francis D. Hebert, overseer of carding at Aldon Spinning Mills, Talcottville, Conn., was recently elected president of the National Association of Woolen and Worsted Overseers. Also elected were: first vice-president, **William Neumann** of A. & M. Karagheusian Co.; second vice-president, **George S. Pickett,** Dunn Woolen Co.; third vice-president, **Edward L. Kelton,** Sulloway Mills.

Henry A. Truslow, formerly assistant manager of the Pepperell Manufacturing Co. plant in Fall River, Mass., is now manager at Ponemah Mills, Taftville, Conn. He is succeeded at Fall River by **Ernest Morris.**

S. Herschel was recently elected president of Standard-Coosa-Thatcher Co., succeeding **Richard C. Thatcher,** now chairman of the board. **Richard C. Thatcher, Jr.,** formerly thread sales manager, was made assistant vice-president, and **Roy E. Butler** was made assistant treasurer.

Eric Dawber has succeeded John Merriman as executive secretary of the Textile Technical Federation of Canada.

Joseph L. Lanier, president of the West Point (Ga.) Manufacturing Co., was recently elected chairman of the boards of the firm's subsidiaries: Equinox Mill, Anderson, S. C., Columbus (Ga.) Manufacturing Co., and Dixie Mills Inc., LaGrange, Georgia. At Columbus **Forbes Bradley** was made president, and **Henry B. Robinson** vice-president. **B. William Whorton** is the new president at Dixie.

Obituaries

John J. McCloskey, 32, technical sales representative for Nopco Chemical Co. in the Virginia-Maryland area.

Charles A. Buerk, 67, president of Buffalo Electro-Chemical Co., on November 12.

D. F. Burns, 61, general superintendent of Plant No. 6, Durham Hosiery Mills.

Martin L. Cannon, Sr., 67, retired industrialist and brother of Charles A. Cannon, head of Cannon Mills.

Thomas J. Capper, 65, president of Thomas J. Capper, Inc.

S. R. Cross, 45, president of Cross Cotton Mills Co., November 3.

G. J. Esselen, 64, vice-president and director of the Esselen research division of United States Testing Co.

James A. Newsom, 75, retired superintendent at Callaway Mills Co.

W. P. Paxton, 73, president of Southern Textile Machinery Co. and Claussner Hosiery Co.

Personal NOTES ABOUT MEN YOU KNOW

John Sullivan, 93, agent of Taber Mill until 1934 and former president of the New Bedford Cotton Manufacturers Association.

David S. Cook, for a number of years associated with Pepperell Manufacturing Co. and more recently vice-president of Clinton (S. C.) Cotton Mills.

J. F. Tinsley, 72, president of Crompton & Knowles Loom Works, on November 18.

R. W. Sanborn, 58, field representative for Goodyear Tire & Rubber Co.'s mechanical goods division.

Otto B. May, 72, founder and president of Otto B. May, Inc., textile dyestuff manufacturers.

W. Troy McWhorter, sales representative, dyestuff department, American Cyanamid Co., Charlotte, N. C., district.

ONCE USED, ALWAYS SPECIFIED!

EVER-DEPENDABLE

TATEM

SELECTED HICKORY

PICKER STICKS

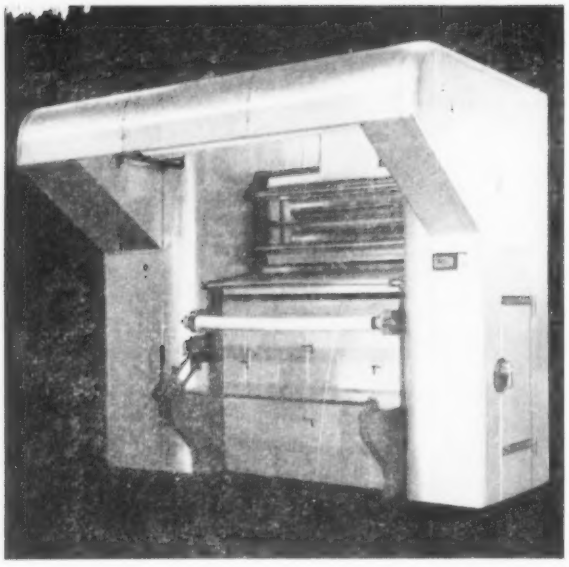
Yes—Tatem picker sticks cost a little more but last much longer. That's because they are made of only finest quality hickory — perfectly cut, seasoned and finished. Low maintenance cost on looms carrying these picker sticks testifies to the knowledge and modern manufacturing skills developed by Tatem over 84 years.

FOR THAT STRONG, SMOOTH STROKE AT THE HEART OF YOUR LOOM YOU'LL STAY SOLD ON TATEM.

PICKER STICKS · PARALLEL PLUGS · SWEEPSTICKS · CONNECTORS and OTHER LOOM PARTS

TATEM MANUFACTURING COMPANY
EASTFORD, CONNECTICUT

SOUTHERN REP. — GREENVILLE BELTING CO., GREENVILLE, SOUTH CAROLINA
NORTHERN REP. — TATEM SALES COMPANY, EASTFORD, CONNECTICUT



"NATIONAL" NYLON
HEAT SETTING MACHINE

The result of extensive development work by "NATIONAL" engineers in cooperation with leading Nylon processors, this modern machine incorporates the following advantages:

Continuous Automatic Air Cooling System . . . an integral part of the machine that meets this vital requirement with foolproof efficiency. *Controlled, Reproducible Tension* . . . effected by a patent pending arrangement under highly sensitive control. *Burner Operation and Control* . . . The heated cylinders are equipped with automatically controlled gas burners which transfer their heat to a constantly circulated "Dowtherm" core. Temperature on each cylinder is individually adjustable by a controller sensitive to plus or minus 0.2°F. Tests have shown gas consumption of less than 85 cu. ft. per hour at a speed of 50 yards per minute.

★ ★ ★

A heat-reflective enclosure aids in maintaining greater uniformity and thermal efficiency. Exhaust gases are continuously withdrawn from each cylinder. Cylinder bearings operate at room temperature, while cylinders are functioning at full heat. Micro-grooved roll surfaces reduce filling shrinkage.

★ ★ ★

The "NATIONAL" Nylon Heat Setting Machine is designed for continuous feed; a wide range of variable speeds; and operating temperatures to 500° F. and higher. It is of rigid, durable construction, with every detail meeting the highest standards for quality and reliability.

Arrangements can be made to see a "NATIONAL" Nylon Heat Setting Machine in operation, and for running tests on samples of your own cloth in a standard unit. A phone call will take care of the details.

THE NATIONAL DRYING MACHINERY CO.
LEHIGH AVENUE and HANCOCK STREET
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New England Agent: INGALLS ENGINEERING CO.—Providence, R. I.

Southern Agent: F. W. WARRINGTON—Charlotte, N. C.

DRYING AND CONDITIONING MACHINERY FOR TEXTILES, CHEMICALS, CERAMICS, ETC.

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CHEMICALS FOR TEXTILES

VERSENE* (Regular)
prevents lead sulfide stains on Viscose fiber; increases detergency of synthetic and "natural" soaps; prevents insoluble soap deposits; *completely* and *permanently* softens hardest water. Complexes almost all metallic ion contaminants.

VERSENE-T*
complexes *iron* in *any* caustic solution. Prevents and removes iron stains. Produces *visibly* whiter cottons.

VERSENE Fe-3 Specific*
This is the most powerful iron complexing agent known in normal pH range. For iron contamination problems only.

VERSENE Fe3*
Complexes iron and other metal ions such as calcium, copper, magnesium, cobalt, nickel, etc.

Use the Versenes whenever you have a problem in metallic ion contamination. As chemistry's most *precise* chemicals they give you *mathematical control over cations in solution.* For cleaner cloth, whiter whites and brighter colors; in scouring, bleaching, dyeing and general processing, the Versenes can help you economically and efficiently.

*T.M. Registered Bersworth Chemical Co.

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LUBRITONE is our latest outstanding development in the softening and finishing field.

1. **LUBRITONE has remarkable ability to soften fabrics and fibers.**
2. **LUBRITONE is non-yellowing and will not turn rancid on long storage.**
3. **LUBRITONE is completely dispersible in water, having wetting-back properties and is odorless.**
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5. **LUBRITONE sharply improves the abrasion resistance of resin finished fabrics.**
6. **LUBRITONE affects neither the shade nor the light fastness of dyed goods.**
7. **LUBRITONE is very economical and easy to use.**

We highly recommend its use in the last rinse to lubricate package or skein dyed yarns.

Because of its lubricating action LUBRITONE greatly reduces needle cutting on resin finished goods when applied in the final rinse after curing.

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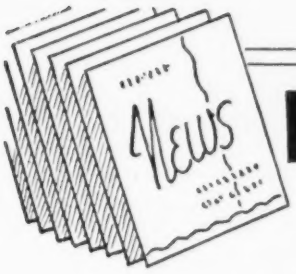
SOUTHERN AGENTS for The VERSENES
manufactured by BERSWORTH CHEMICAL COMPANY, Framingham, Mass.



HELPFUL Booklets FREE

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This service is restricted to those engaged in operation and management of textile industries.

1-1. Textile Finishing & Slasher Equipment. 2 Booklets by Tower Iron Works show Tower's finishing and slasher equipment. Well illustrated, it gives specifications and advantages of various units. Write: Tower Iron Works, 50 Borden Street, Providence, Rhode Island, P. O. Box 1314.

1-2. Data on X-51 Acrylic Fiber. Booklet gives characteristics of X-51, its dyeability, toxicity, available types, and manufacturing information. Very comprehensive, it contains drawings, charts, etc. Write: New Product Development, Department-S.F., American Cynamid Company, 30 Rockefeller Plaza, New York 20, New York.

1-3. Hyster Turret Trucks. Catalog features Turret Trucks for "horizontal" material handling. Gives advantages cost-wise and utility-wise and includes specifications. Write: Hyster Company, 2902 N. E. Clackamas Street, Portland 8, Oregon.

1-4. Lubrication of Draper-Diehl Power Transmitter Assembly. New bulletin recommends most efficient method of lubricating Draper-Diehl assembly, shows cutaway illustration of the assembly. Write: New York & New Jersey Lubricant Company, 292 Madison Avenue, New York, N. Y.

1-5. Utilization of Stainless Steel in Textiles. Booklet enumerates the advantages of stainless steel to mill operators and tells the places where it can be used with best results. Illustrated with pictures and diagraams. Write: Crucible Steel Company of America, Henry W. Oliver Building, P. O. Box 88, Pittsburgh 30, Pennsylvania.

1-6. Prevention of Rust on Textile Equipment. Booklet by Tnemec explains application of Tnemec coatings as means of inhibiting rust on metals. Also enumerates types of Tenemec weather-proofing coatings. Write: Tnemec Company, Inc., 125 West 23rd Avenue, North Kansas City 16, Missouri.

1-7. Allis-Chalmers Textile Equipment. Bulletin covers individual card drives and loom motors, "Quick-Clean" textile motors, "Texrope" V-belt drives, centrifugal pumps, dielectric heaters, metal detectors, transformers, rotary compressors, steam turbine generator units, and water conditioning equipment. Write for "Equipment for the Textile Industry,"—Allis-Chalmers Company, 1054 S. 70th Street, Milwaukee, Wisconsin.

1-8. Treatment of Cellulose and its Derivatives with Peroxygen Compounds. New Becco bulletin gives the low-down on use of Peroxygen compounds in processes of this type. Write for Bulletin #43, Becco Sales Corporation, Buffalo 7, New York.

1-9. V-Drive Catalog and Engineering Manual. Catalog by Maurey Manufacturing Corporation, lists products and their advantages and applications. Well illustrated with charts and tables. Write: Maurey Manufacturing Corporation, 2907-23 South Wabash Avenue, Chicago 16, Illinois.

1-10. Side-Positioning Regulating Control. Application and operation of side-positioning regulating controls to web of material described in new booklet by Westinghouse. Write for: Bulletin DB 18-530, Westinghouse Electric Corporation, 401 Liberty Avenue, Box 2278, Pittsburgh 30, Pennsylvania.

1-11. Instrumentation for Marhen Vat Dyeing Process. Bulletin provides practical application data in the use of oxidation-reduction potential measurement for improved quality and uniformity of batch or continuous vat dyeing. Write for: Bulletin 468, The Foxboro Company, Foxboro, Massachusetts.

1-12. Heliogen Colors in Textile Printing. Booklet by General Dyestuff Corporation gives full information on powder brands, paste and press cake brands, water-dispersible powder and paste brands. Write for: "Heliogen Colors," General Dyestuff Corporation, 435 Hudson Street, New York 14, New York.

1-13. Cleaner, Cooler Air. Bulletin by R. P. Adams Company describes working principles and advantages of Adams' Poro-Stone air filter and the Adams Aftercooler and Cyclone Separator. Write for: Bulletin 176, R. P. Adams Company, Inc., 216 E. Park Drive, Buffalo 17, New York.

1-14. Plasticized Yarn. New Booklet by the Cellucord Corporation suggests ways in which Cellucord's plasticized yarn can be used to advantage in manufacturing. Gives properties, specifications, and uses in a comprehensive form. Write to: The Cellucord Corporation, Department X, 630 Fifth Avenue, New York 20, N.Y.

1-15. Hot Air Slasher Control. Data sheets describes benefits obtainable and equipment required for hot-air slashing. Schematic diagrams and photographs illustrate versatility **Moist-O-Graph Controller.** Write: Station 213, Minneapolis-Honeywell Regulator Company, Wayne & Windrim Avenues, Philadelphia 44, Pennsylvania.

1-16. New Bleaching and Stripping Agent. Technical bulletin by Guardian Chemical Corporation describes how a 1% to 1½% solution of the agent strips colors with a minimum loss of tensile strength. Write for: "Clorpactin-CXW," Guardian Chemical Corporation, 10-15 43rd Avenue, Long Island City, New York.

1-17. Speed Reducers. New bulletin by Dodge Manufacturing Corporation gives full data on Dodge Torque-Arm Speed Reducers and the new Dodge Overload Release designed for use with the reducer. Write for: #A-614-A, Dodge Manufacturing Corporation, Mishawaka ,Indiana.

36 years of KNOW HOW

Protects your investment in ALLEN WARPER BEAMS AND BEAM HEADS

"Proved by Time — Improved by Research", Allen Beams and Heads assure you the lowest per-year cost, plus the positive assurance that your yarns will reach the slasher in prime condition. The following advantages you can DEPEND ON without question when you specify GENUINE "ALLEN":

RESILIENT, UNBREAKABLE HEADS

15-ton deflection test has no effect on these heads — they will not take a set. Built-in resilience gives them ability to contain the warp snugly at all stages of build-up. Unbreakable under any conceivable conditions of use.

NEW BARRELS KEEP PACE WITH SYNTHETICS

Allen research has developed barrels that maintain their dimensions under the crushing build-up of synthetic yarns, assuring you uniform warps with no soft cores, no trapping at heads.

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In intra-mill handling and inter-mill shipping, these beams can "take it". The surest protection for your yarn is to handle it on an Allen Beam.

Our 36-year Reputation is Your Protection

ALLEN
BEAM COMPANY
High Speed Warper Beams
Warper Beam Heads
Loom Beams
Adjustable Loom Beam Heads

General Offices — 151 River Road
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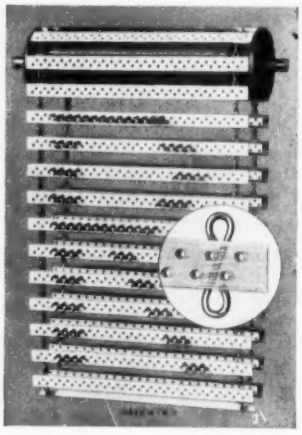
Representatives in all Textile Localities and all Principal Countries of the World.

"GOOD WARPS ARE MADE ON GOOD BEAMS"

Another Fine Rice Dobby Product

IMPROVED DOBBY BARS

The Improved bar with clear peg holes and eyes that will not twist. Made of thoroughly air dried stock.

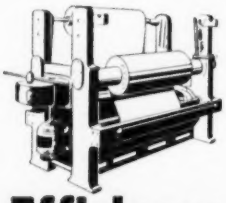


HARRIS "Heavy Duty" Lug Strap
Leather and Fibre Adjusting Strap
Special Braided Loom Cord
"Wirecore" Loom Cord
Pick Arm Lug Strap
Dobby Pegs

RICE DOBBY CHAIN CO.

Millbury, Massachusetts
Southern Representatives
R. E. L. HOLT, JR., ASSOC., Jefferson Bldg., Greensboro, N. C.

Fast, Safe Way to Keep Looms at Peak Efficiency



AN ounce of preventive maintenance *now* means no letdown of loom efficiency *later*.

You can simplify periodic overhaul of your looms, knitting machines, *all* heavy equipment with fast-working Oakite Composition No. 99. Simply make up a solution of one part O. C. 99 to twenty parts water. Apply with saturated rag. Let soak for five minutes, then wipe dry.

Water-mixed Oakite Composition No. 99 eliminates fire risk. It's easy on the hands. Pleasing pine odor makes it pleasant to use. For complete details, demonstration, contact your local Oakite Technical Service Representative or write Oakite Products, Inc., 26C Rector Street, New York 6, N. Y.

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GENERAL, ECONOMIC, MANAGEMENT

4 **HOW FACTORING CAN INCREASE PROFITS**—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., 2 park Ave., New York City.

7 **RAYON TELLS ITS STORY TO THE PUBLIC** — Folder containing reprints of advertisements explaining some of the many roles in which rayon is serving the American public.—AMERICAN VISCOSE CORPORATION, 350 5th Ave., New York 1, N. Y.

12 **CONDENSED LISTINGS**—8 page pocket sized booklet listing by plan flow the machinery and mill supplies available. Designed to help purchaser in grouping his orders to greatest advantage.—ATKINSON, HASERICK & CO., Boston, Mass.

20 **VISION TESTING EQUIPMENT** — Pamphlet entitled "What you can expect from a good vision program" written by a prominent personnel director, also circular describing the Keystone Occupational Visual Service. KEYSTONE VIEW COMPANY, Meadville, Pa.

21 **CHROMIUM PLATING.** New booklet tells how Walhard engineered hard chromium plating service works for industry. Walhard's capacity to produce, controlled quality, and economical operation are discussed along with pictures of the operations. WALTON AND LONSBURY, Attleboro, Mass.

22 **THE WONALANCET WAY**—Is the title of an editorial booklet published five times a year which deals with current problems appearing worthwhile at the time they are written. WONALANCET COMPANY, 128 Burke St., Nashua, N. H.

PLANT AND PLANT MAINTENANCE

102 **"TANK TALK"**—Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103 **HUMIDIFICATION, EVAPORATIVE COOLING** —Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment.—AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

118 **"PARKS PARABLES"** — Recent issue on Parks Turbo Traveling Cleaners for spinning, twisting, winding, and warping. Also "Up Draft" cleaners to keep overhead and ceilings free from fly and lint.—PARKS-CRAMER CO., Fitchburg, Mass.

119 **MOPPING EQUIPMENT**—Complete catalog and circulars containing information on the many sizes and styles that can be had.—S. C. LAWLOR CO., 121 N Aberdeen St., Chicago, Ill.

133 **PAINTING SPECIFICATIONS AND COLOR CHIPS**—Industrial Paint and Color Guide, CC446, gives full painting specifications for exterior and interior of industrial plants with complete color samples.—THE SHERWIN-WILLIAMS CO., Painter Maintenance Div., Cleveland, Ohio.

137 **PUMPS AND COMPRESSORS** — Bulletin QP-11 presents the standard types of Gardner-Denver air compressors, centrifugal pumps, steam and power reciprocating pumps in a brief and comprehensive manner to enable the prospective user to select the size and type for specific needs. — GARDNER-DENVER Co., Quincy, Ill.

150 **RIHCO HUMIDIFIERS AND COOLING SYSTEMS**—Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems.—ALDRICH MACHINE WORKS, Greenwood, S. C.

151 **INDUSTRIAL BRUSHES**—Illustrated Booklet of industrial brushes featuring textile usage on shears, printing machines—also flock, raising and cylinder brushes.—M. W. JENKINS SONS, INC., 444 Pompton Ave. Cedar Grove N. J.

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Largest Stock!

First by PRECISION (for Textiles)

It's all happened in less than 25 years! Remember the "old" PRECISION Compound? The first Chain Drives? —for Drawing, Roving, Sliver and Ribbon Lap, for spinning and twisting, etc., etc.? And do you remember that PRECISION ORIGINATED The First —and practically EVERY CHAIN DRIVE used in the Textile Industry? Thus, when you order from PRECISION, you get CHAIN DRIVES by Experts—from the ORIGINATORS! Call PRECISION—the Pioneer and Producer of Textile's most complete line of Chain Drives—most of them in stock. Or, ask for a Sales-Engineer!

Originated by PRECISION
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- Roving frame • Sliver Lap • Cylinder Jack
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Chain Drives Give You —longer life • highest efficiency • full output • more uniform product • uninterrupted service • shock load capacity, true economy—first and last.

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THE SOUTH'S LARGEST MANUFACTURER OF GEARS AND CHAIN DRIVES

SELF-SUPPORTING TWO WAYS!

The TYPE S JOHNSON Rotary Pressure JOINTS

Rod thru head lugs is just to keep joint from turning.

The Type S carries its own weight —needs no external supports of any kind. It's self-supporting from a dollar-and-cents standpoint too. Since it shifts with the roll it ends the threat of misalignment, and is completely packless and self-lubricating besides. It's the ideal answer for many operating conditions, and pays its own way in the bargain.

Write for Catalog JS-3

The Johnson Corporation

815 Wood St., Three Rivers, Mich.

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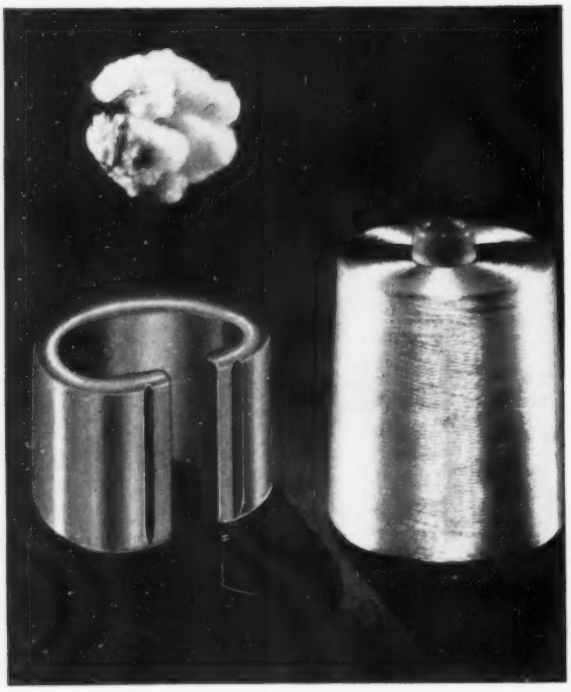

CARTER TRAVELERS

Increase your profit opportunities with these strong, dependable links in your production chain. In mill after mill a switch to CARTER TRAVELERS has meant less ends down, smoother running work and stronger, finer yarn.

Your quality goes up — costs come down — when you put CARTER TRAVELERS to work.

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ELIMINATES USING MINERAL SPIRITS

A FREE DEMONSTRATION OR SAMPLE IS YOURS FOR ASKING

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M·B "AMOSKEAG" PNEUMATIC ROLL PICKER

MODEL A-VT-A
20,000 R.P.M.

This is NOT a grinder, but the original pneumatic tool especially designed for the SPECIFIC Purpose of

REMOVING LINT and FLY

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167 COLOR CONDITIONING FOR INDUSTRY — Booklet describing how color is used to reduce maintenance costs, increase production, curtail fatigue, improve employee morale.—E. I. DU PONT DE NEMOURS & CO., INC., FINISHES DIV., Wilmington, Delaware.

179 BETTER WAYS—Form 2020, condenser catalog of standard and special model Toledo Industrial Scales that are being used in receiving, shipping, and production operations by all industries including the textile field.—TOLEDO SCALE CO., Box 97, Toledo, Ohio.

187 SILICONE INSULATION—Data Sheets 14C describing silicone electrical insulating varnishes used in class H equipment. Protection and longer life with Silicone insulation described. — DOW CORNING CORP., Midland, Mich.

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218 BALL BEARINGS FOR TEXTILE MACHINERY —A 40-page catalog illustrating Fafnir Ball Bearing units for replacement or new applications in all phases of textile processing.—THE FAFNIR BEARING CO., New Britain, Conn.

226 COTTON CARD DRIVES—Booklet B-4596 which describes Westinghouse individual cotton card drives. Through the proper design of card motors by Westinghouse, individual drive is now practical and the booklet gives full information. — WESTINGHOUSE ELECTRIC CORPORATION, P. O. Box 868, Pittsburgh 30, Pa.

254 LOOM RECONDITIONING PROGRAM AT TALLASSEE MILLS—Reprint of exclusive story on the loom reconditioning program at one of the biggest southern mills. This article shows how central lubricating system was built into each rebuilt loom as part of the improvement program. — BIJUR LUBRICATING CORPORATION, Rochelle Park, N. J.

259 SUNOTEX MACHINE OIL—Booklet describing this machine oil as being "custom-made" for the textile industry. Advantages discussed and pictures of uses which include knitting machinery, SUN OIL COMPANY, Philadelphia 3, Pa.

266 LUBRICATION — Bulletin BG2-DC, describes properties of Silicone greases used in motors at high speeds and temperatures, on oven conveyors, tenter frames, can dryers, etc. Decrease by 10 to 1 in re-lubrication requirements described.—DOW-CORNING CORP., Midland, Mich.

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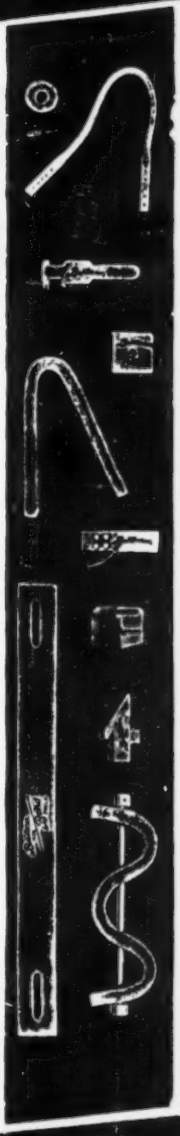

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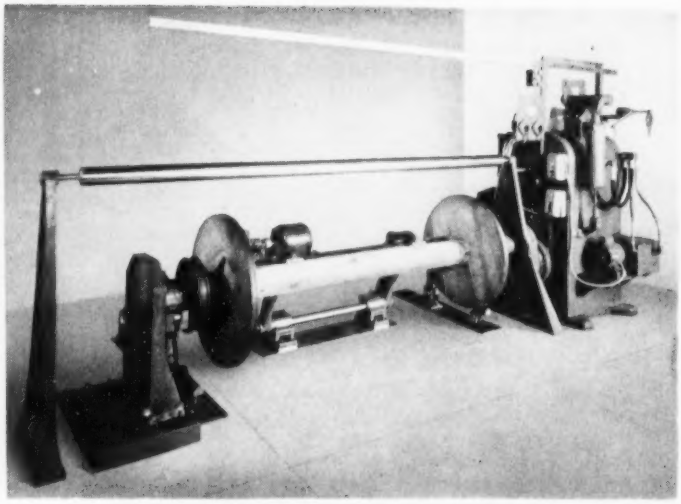

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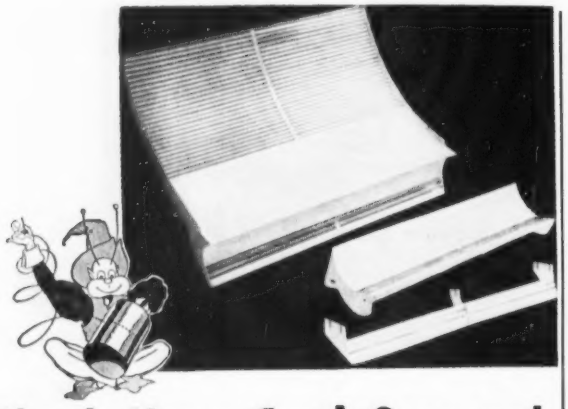

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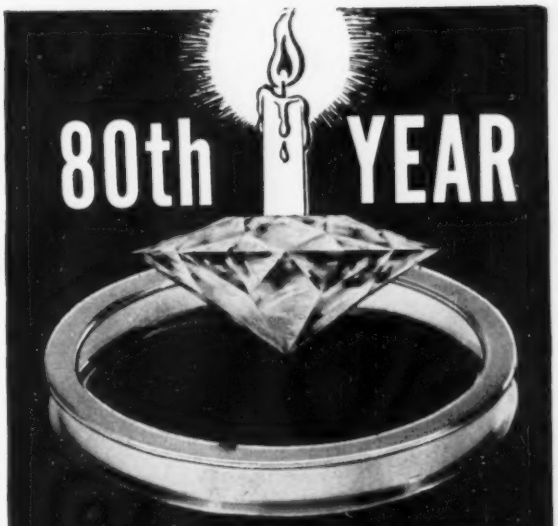

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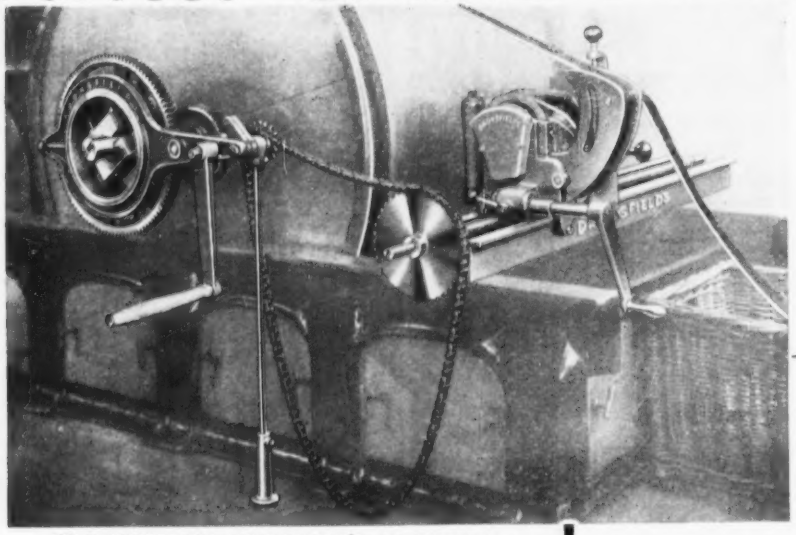

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Volume 117 Number 1

JANUARY, 1953

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LABOR — EQUIPMENT — MATERIAL

Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

"They qualified in every way on their estimate of what they would accomplish in the way of savings and better labor control.

A SYNTHETIC PLANT

Write for a free copy of "Labor and Management Benefit by Industrial Engineering Principles," and our booklet "A Fair Day's Pay and in return A Fair Day's Work".

AMERICAN ASSOCIATED CONSULTANTS, Inc.

D. S. KEOGH, President
J. J. SKELLY, Vice Pres. and Gen. Mgr.
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NEW YORK 17, N. Y.

GRANT BUILDING
PITTSBURGH, PA.

H. B. CRAFT, Vice President in Charge of Southern Operations
30 CAMDEN ROAD
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EXCEL Keeps Your Production Rolling

24 TRUCKS for the Textile Industry

The Excel No. 1000 Fibre Truck

A sturdily constructed truck with plenty of solid rivets to prevent buckling. Built of .090 vulcanized fibre, smooth sanded hardwood, with heavy duty metal top-rail and corners. Casters are securely bolted to bottom. Finished in paint or clear lacquer.

Also:

No. 100 Loose Doff Box
No. 200 Doff Box Frames
No. 300 Doff Truck
No. 400 Slatted Yarn Truck
No. 500 Metal Yarn Truck
No. 600 Slatted Conditioning Truck
No. 700 Waste Can Truck
No. 800 Platform Truck
No. 900 Metal Conditioning Truck
No. 1100 Steel Lap Truck
No. 1200 Utility Fibre Truck
No. 1300 Utility Metal Truck
No. 1400 Comber Lap Truck
No. 1500 Pin Board Truck
No. 1600 Bale Opening Truck
No. 1700 Cone Truck
No. 1800 Beam Truck
No. 1900 Sliver Can Truck
No. 2000 Swing Bed Doff Truck
No. 2100 Battery Filling Truck
No. 2200 Rack Truck
No. 2300 Fibre Truck
No. 2400 Stainless Steel Dye House Truck

Many Other Special Trucks

REPRESENTATIVES

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Mr. Paul Eurey ..... Lincolnton, N. C.
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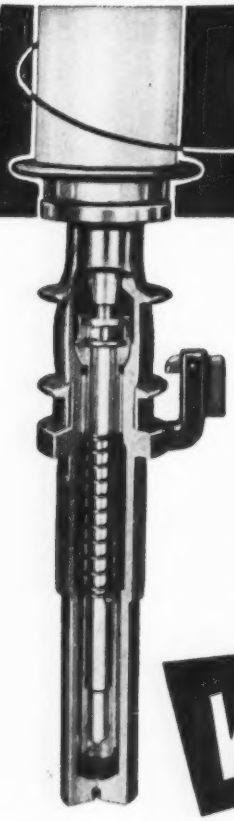
EXCEL TEXTILE SUPPLY CO.

"Excel Trucks Excel"

LINCOLNTON NORTH CAROLINA

WICACO ROLLER BEARING SPINDLES

first in Quality since 1868



WICACO Roller Bearing Spindles, incorporating the SKF roller bearing type of bolster, are the finest spindles your money can buy, developed to perfection through the many years since Wicaco first introduced Roller Bearing Spindles to the Textile Industry.

Many textile mills have found that Wicaco Roller Bearing Spindles cost no more than ordinary ones, and reduce operating costs. We will design them to meet your particular requirements. Write today for quotations without obligation.

WICACO SPINDLE OILING MACHINE

The WICACO SPINDLE OILING MACHINE guarantees proper lubrication for all twisting spindles, flushes out the old oil and replaces it with fresh clean oil in one simple operation. Saves time, labor, power. Order yours today, or send for descriptive folder NOW.

WICACO

WICACO MACHINE CORPORATION

Designers and Manufacturers of Precision Machinery and Parts

WAYNE JUNCTION — PHILADELPHIA 44, PA.

AMERICAN SUPPLY CO.
1420 Broad St.
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Suite 204, Crawford Bldg.
Greenville, S. C.
and P. O. Box 6052
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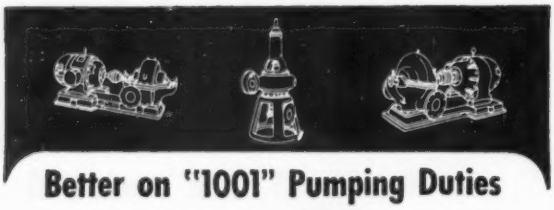
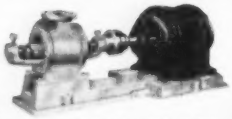
OTHER AGENTS in FOREIGN COUNTRIES

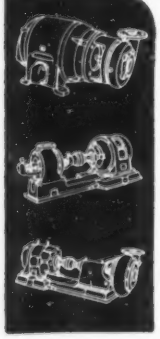


Better on "1001" Pumping Duties

Capacities to 150 G.P.M.

Heads to 500 Ft.





APCO Two-Stage Turbine Type Pump for High Pressure Service

Apco—the pump with but one moving part, the impeller — is famous for long-lived, efficient performance on small capacity, high head duties. Available in Single Stage, Two Stage and 4-Stage Tandem for high pressures — and Water Jacketed for high temperature and highly volatile liquids.

Write for Bulletins 111, 111-A, 111-WJ

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AURORA Always PUMPS

AURORA PUMP COMPANY

90 Loucks Street, Aurora, Illinois

static elimination—a windfall!

Static may be eating up more of your profits than you realize. Complete elimination—as only the Simco "*Midget*" can offer—might easily prove to be a windfall to your production. And the "*Midget*" is least expensive, too!

the SIMCO company

920 Master St., Philadelphia 22, Pa.

SUPPLIERS News

WHAT THEY ARE DOING

American Resinous Chemicals and American Polymer Corps. have announced the appointment of **G. S. Robins & Company** of St. Louis, as their representative in Eastern Missouri, Southern Illinois, Western Tennessee, and Arkansas.

Atlas Powder Co. has announced the appointment of Arthur F. Quinlan as technical sales representative in northern and western New York: Maurice A. Ponti is assigned to parts of northern New Jersey.

The **Robert E. Mason Co.,** Charlotte, N. C., has been appointed sales representative for **Barco Manufacturing Co.** in the Carolinas.

A 20,000 sq ft building in Mountainside, N. J., is under construction by **Beckman Instruments, Inc.,** South Pasadena, Calif. It will be used as eastern sales and services offices, and as an eastern manufacturing facility for the Beckman subsidiary, Helipot Corp.

Formerly with General Dyestuff Corp., John H. Hennessey has joined

Mr. Hennessey

Berkshire Color and Chemical Co. as vice-president.

The Cellucord Corp., manufacturers of pliable plasticized yarn used extensively as backing for soft floor coverings, is now engaged in establishing the product as a textile yarn with applications in other fields. Sales offices are in 630 Fifth Ave., New York, N. Y. L. K. Norton is in charge of Cellucord sales; Charles S. Curtiss and Ernest Morgan have charge of product development and research.

E. W. Best is now sales manager of acetate filament yarn, textile division, of **Celanese Corp. of America.** He succeeds J. Guyton Boston, who was promoted to general sales manager. W. D. Clark, Jr., replaces Mr. Best as southern district sales manager.

E. Kent Swift, Jr., was recently named director of research of the **Whitin Machine Works.** Mr. Swift has worked in all of the major manu-

Mr. Swift

facturing departments as well as in the service and sales departments of the company.

The **Herr Manufacturing Co.** has announced the appointment of William W. Woodard, formerly with H & B American Machine Co., as sales engineer in the southern states.

Lukas Equipment Co., 1804 Blanding St., Columbia, S. C., has been appointed South Carolina dealer for the Industrial Truck Division of **Clark Equipment Co.**

Container Corp. of America has announced the appointment of John G. Robinson, vice-president, as vice-chairman of the board of directors and chief executive officer of California Container Corp., a subsidiary. William P. Hooker, president of California Container, will continue in that office. Donald H. Brewer, first vice-president of O. B. Andrews Co., another subsidiary, has been named general manager of the newly created folding carton and boxboard division.

Fred C. Grant has been made general sales manager for **Crown Chem-**

DOW CORNING
ANTIFOAM A
proves its usefulness

In laboratories or in commercial production and packaging, Dow Corning Antifoam A saves time; saves productive capacity now wasted on foam; eliminates overflowing and fire hazards; improves the finished product.

In rubber coated fabrics, pinholes caused by air bubbles are eliminated by adding a trace of Antifoam A to dipping or impregnating baths of natural or synthetic rubber latex. Besides improving the quality of the finished product, Antifoam A increases vat capacity and speeds production.

Heat-stable and practically inert physiologically, Antifoam A is generally effective at concentrations ranging from 1 to 200 ppm. It can be used as received or dispersed in a solvent. Where solvents are taboo, try one of our water dispersible emulsions of Antifoam A.

DOW CORNING SILICONES

See for Yourself

Send for Free Sample

DOW CORNING CORPORATION
Midland, Mich. Dept. No. CL-1
Please send sample of [ ] Antifoam A
[ ] Emulsion of Antifoam A
Name
Address
City State

DOW CORNING CORPORATION
Midland • Michigan

PENICK & FORD, LTD., INCORPORATED

CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS

NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA

SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John:
Why not let the Penick & Ford Textile Laboratory in Atlanta check specifications on that cloth?
Jim

Sterling Ring Travelers

MONOTONOUS

Day by day, week by week, month by month, the same good service and excellent results come from using STERLING Ring Travelers. Monotonous? No, wonderful.

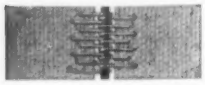
Try STERLING

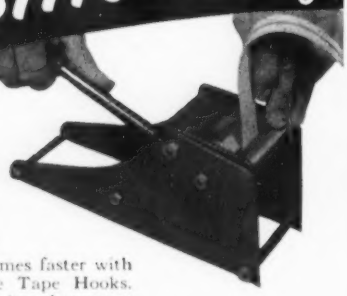
M. H. CRANFORD, Box 204, Chester, S. C.
D. R. IVESTER, Box 882, Clarksville, Ga.
J. S. FURTADO, Box 803, Fall River, Mass.

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

10 TIMES FASTER THAN STITCHING!

SPINDLE TAPE LACING EQUIPMENT

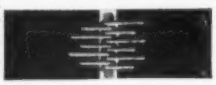




Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

CONDENSER TAPE LACING EQUIPMENT

Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN

Clipper BELT LACING EQUIPMENT

FIT BETTER—WEAR LONGER

Precision-Built Kentex Aprons made to any specifications, on short notice. Write for free samples and prices. We are world's largest manufacturers of genuine leather textile aprons.

TEXTILE APRON COMPANY
EAST POINT, GEORGIA

Hugh Williams & Company, Toronto Canada—Canadian Representative

PEGGED and GLUED!
BRISTLES Stay Put

LONGER LIFE—Spiral card brushes, refilled the Gastonia way, last from 10 to 15 years, compared with 2 or 3 years when staples are used—for STAPLES WILL NOT STAY PUT IN SOFT WOOD. Gastonia first dips the bristles and fiber in glue, then they are permanently pegged in.

BETTER FINISH—To prevent lint from collecting on rolls, Gastonia paints them with high grade bobbin enamel, which dries to a hard, glossy finish.

Brushes can be refilled and returned in two days. Freight is paid one way.

JOHN T. HARRELL, MGR. PHONE 5-2422

GASTONIA BRUSH Co.
GASTONIA, N. C.

ical Corp. He was previously with Synthron, Inc. and M. W. Dunton Co.

New facilities to double present production capacity have been announced by **Dexter Chemical Corp.** According to Joseph B. Evans, director of sales, the expansion program has been necessitated by the increase of sales in the firm's textile chemical division. Ernest Welles, formerly with Foster N. Snell, Inc., is now a research chemist at Dexter.

A manufacturing license for the production of saran has been granted by **Dow Chemical International Limited** to the United Saran Corp. Ltd., of Rehovoth, Israel.

Plans for construction of a $5,000,000 textile research laboratory, to consolidate research now being done in four scattered locations, have been announced by **E. I. du Pont de Nemours & Co., Inc.** The director will be Dr. Linton G. Ray, Jr. Expansion of facilities at the firm's nylon plant in Chattanooga has also been announced. William T. Banning, Atlanta regional sales manager until last August, when he became an advisor in the finishes division, has retired after thirty-seven years with the company.

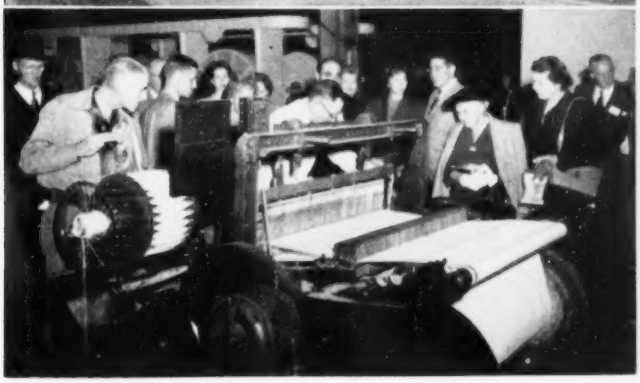
The chemical plant formerly occupied by Steroid Laboratories, Grenville, Quebec, has been acquired by **Gallowhur Chemical Corp.** Gallowhur Chemicals of Canada, Ltd., has been organized to operate it, with Grant McKenna as production manager and William Grey, plant superintendent.

N. T. Gates Co. has moved to larger headquarters in the Drexel Building, 5th and Chestnut Sts., Philadelphia, Pa.

General Dyestuff Corp. has announced the appointment of Larry

Atlantic Steel's New Warehouse

A two-day open house and trade show marked the recent opening of the new warehouse division facilities of Atlantic Steel Co. A wide range of stock material occupied half of the 64,400 sq ft warehouse, and 69 exhibits of suppliers and customers' products filled the other half.



Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

Insist on Anderson when you order metal shields.

TEXTILE SHIELD CO., INC.

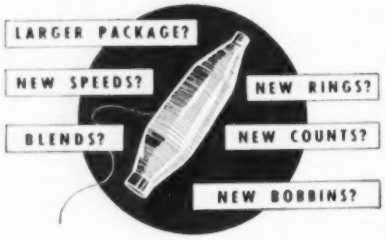
J. N. ANDERSON, Treasurer

LAWRENCE, MASS., U. S. A.

U. S. RING TRAVELERS

What YARN changes are you making?

What TRAVELER changes will they require?



Wherever you feel a change in travelers would benefit, let U. S. men make suggestions and furnish test samples.

Prompt shipments from stock at Greenville, Providence

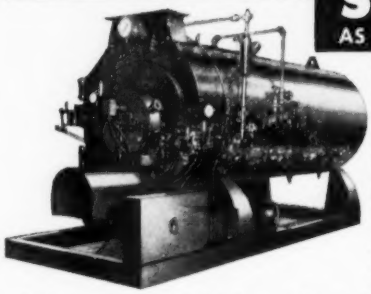
U. S. RING TRAVELER CO.

HOME OFFICE & FACTORY: PROVIDENCE, R. I.
SOUTHERN OFFICE & WAREHOUSE: GREENVILLE, S. C.

Write, wire or phone nearest office.

W. P. VAUGHAN, W. H. ROSE—Greenville, S. C.—Box 1048—Phone 3-0915
O. B. LAND—Athens, Ga.—Box 1187—Phone 478
L. H. MELLOR, JR.—Mid-Atlantic States—123 Treaty Rd.—Drexel Hill, Pa.—Phone [illegible]
H. R. FISHER—Concord, N. C.—Box 83—Phone 9356
H. J. SMITH—Providence—Box 1187—Gaspee 1-0[illegible]0

REGARDLESS OF SIZE
CYCLOTHERM
GIVES YOU . . .
STEAM
AS YOU NEED IT



with CYCLONIC COMBUSTION!

If your steam requirements have a tendency to change at different times of the day, the most economical and efficient boiler you can install is a Cyclotherm Steam Generator.

Cyclotherm means *Quick Steam* when called for. This reduces fuel consumption during "coming up" periods and permits continuous, quick adjustment to load changes. The Cyclotherm Boiler is able to deliver steam faster because of its extremely high heat transfer and the fact that it has much greater water circulation since the combustion chamber is radiating heat evenly along its entire length.

REMEMBER—Full power operation from a cold start in 15 to 20 minutes. Guaranteed 80% efficiency. Savings up to 50% on maintenance. Great fuel operational savings. Boilers are designed for oil or gas operations from 18 thru 500 h.p., 15 to 200 lbs. operating pressure.

Write today for latest descriptive folder, "All Your Questions Are Answered by Cyclotherm."

CYCLOTHERM STEAM GENERATORS
DIVISION UNITED STATES RADIATOR CORP.
DEPARTMENT 37, OSWEGO, NEW YORK

MODERN *Custom Cut* FERGUSON GEARS

FOR OVER 25 YEARS
A WATCHWORD IN
SERVICE AND
QUALITY

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Phone 5-0251

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MANUFACTURING CHEMISTS

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The Nation's largest manufacturer of Sizing Compounds, Gums, Waxes and other kindred products for all warp yarns.

Knitting and Warp Yarns

Cotton
4's to 30's

Viscose Rayon and Blends with
Orlon, Vicara and Dynel
18's to 30's, single and ply

COMER-AVONDALE MILLS, INC.

Boston — Chattanooga — Chicago — Charlotte — New York
Philadelphia — Reading

representing

AVONDALE MILLS
Sylacauga, Alabama

COWIKEE MILLS
Eufaula, Alabama

SUPPLIERS News
WHAT THEY ARE DOING

Thompson as technical manager of the newly formed cotton section. He was previously head of the mixed fiber department.

John Cumnock has joined the business department of **James Talcott, Inc.**, factors, and will solicit factoring accounts for the firm in North Carolina, Tennessee, and the Virginias.

George S. Fabel, formerly vice-president, succeeds Fred E. Schluter as president of **The Thermoid Co.**, Trenton, N. J. T. J. Ellis has been elected a vice-president.

John W. Solomon, previously general sales manager of **United States Rubber Co.'s** textile division, has been made sales assistant to the vice-president and general manager of the division. V. C. McQuiddy has been appointed sales manager of industrial products, including tire cord, chafer fabric, filter fabrics, mechanical and weaving yarns.

Richard H. Davis, who has represented the firm for ten years in northern New England, has been

Mr. Davis

promoted to supervisor of southern sales for **Star Woolen Co.**

The new firm of **Wheeler-Brady, Inc.**, specializing in consulting engineering services, has been organized by William S. Wheeler and Robert Brady. Mr. Wheeler was formerly editor of "Factory Management and Maintenance" and business manager of "Flow" magazine. Mr. Brady was director of research of The Material Handling Institute. The firm's services include material handling, industrial packaging, maintenance, plant layout.

R. E. L. Holt, Jr. & Associates have been appointed representatives for **Glenwood Machinery Associates, Inc.**, in the states of Virginia, North and South Carolina, and Tennessee.

Meadows Manufacturing Co., Atlanta, Ga., has appointed G. P. Stanley of Greenville, S. C., sales representative for South Carolina.

U. S. Bobbin & Shuttle Co. has announced the appointment of James E. Oliver, formerly with Allen Beam Co., as sales engineer for the firm's warper beam division. Julian T. Pool

Mr. Oliver (above left)
Mr. Johnston (above right)
Mr. Pool (left)

has been named sales representative in Georgia, Alabama, and Louisiana; new sales representative for the eastern Carolina and eastern Virginia territory is M. L. Johnston of Charlotte, N. C., previously with the National Ring Traveler Co.

Hemphill Co. has announced the appointment of Renald L. Lamontagne as sales and service representative of the entire Canadian territory.

W. H. Spreen, manager of the Detroit branch since 1945, has been appointed midwestern district sales manager for **Heyden Chemical Corp.**, with headquarters at the firm's Chicago office.

Arthur W. Kurz, Jr., has been appointed vice-president in charge of engineering of **Hunt Loom & Machine Works, Inc.** Mr. Kurz was previously with the Dolphyn Engineering Corp.

B. M. Jones has resigned as general sales manager of the **Rodney Hunt Machine Co.**

Hyster Co. has opened a new deal-

LOW COST

MOISTURE MONITOR

● STEPS UP PRODUCTION

● PROTECTS QUALITY

This amazingly simple electronic device accurately measures and indicates moisture content, condition or regain on slashers, tenters, dryers, etc. Easily installed by your own mechanic.

TESTED . . .
16 instruments on 16 slashers in practically continuous operation for 16 months—

PROVED . . .
Perfect service record except for replacement of two tubes during 16-month test period.

ACCEPTED . . .
The Moisture Monitor now in use in many large and small mills.

Your Inquiry Invited! Prompt Attention.

STRANDBERG ENGINEERING LABORATORIES

416 W. Market St.
Greensboro, N. C.

"THERE IS HARDLY ANYTHING IN THE WORLD THAT SOME MAN CANNOT MAKE A LITTLE WORSE AND SELL A LITTLE CHEAPER, AND THE PEOPLE WHO CONSIDER PRICE ONLY ARE THIS MAN'S LAWFUL PREY." (John Ruskin)

There has never been a truer statement

AMERICAN, HICKS, WILSON, WENTWORTH DOUBLE DUTY, GRAVITY

Registered Trade Marks

ETARTNEP FINISH—New Chemical Process

Ring Travelers for Every Spinning and Twisting Purpose

NATIONAL RING TRAVELER CO.

PAWTUCKET, RHODE ISLAND — Philip C. Wentworth, Treas.

CHARLOTTE, NORTH CAROLINA — L. Everett Taylor, Southern Manager

BARNES SERVICE *Consulting Engineers*

TO THE TEXTILE INDUSTRY FOR OVER ½ CENTURY

Surveys—Reorganizations—New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing, Bleaching, Dyeing, Printing and Finishing.

★ Plant Appraisals ★ Mechanical and Operating Surveys—New Methods ★ Scheduling and Planning ★ Work Load Studies, Job Analysis and Evaluation, with Incentive Plans ★ Standard Cost Installations ★ Cost Control Methods.

Labormeter Burden-meter Waste-meter

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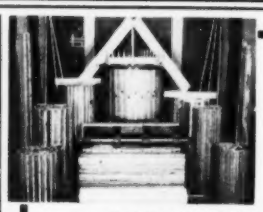
920-923 MONTGOMERY BLDG., SPARTANBURG, S. C.
European Agent, Ralph L. Hodara, 101 Reaumur, Paris 2

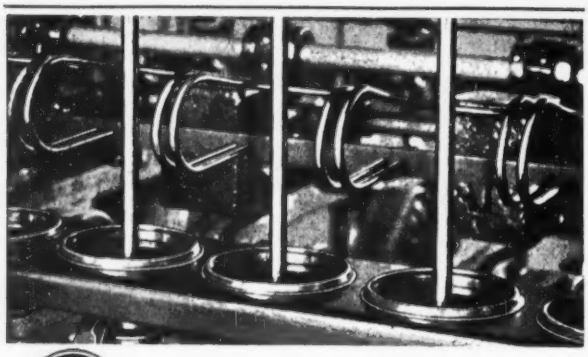


PROMPT SERVICE on

- **BEATER LAGS for all makes, fitted to order**
- **COMPLETE BEATERS—Kirschner and H & B**
- **ALL TYPE APRONS, both new and reworked, including fireproof aprons**

TODD-LONG PICKER APRON CO.

Gastonia, N. C. Plant 5-4021 Night 5-5149



G-C—TWISTER RING GREASE... 40% Higher Melting Point

Laboratory tests prove G-C Twister Ring grease doesn't melt at temperatures 40% higher than other greases. Regular mill users find it stays in rings up to 40 hours and longer. No throw-offs, no staining, no clogging. Even distribution, complete lubrication. Used for twisting any yarns. *SAMPLE GLADLY SENT ON REQUEST*

GEORGIA-CAROLINA OIL COMPANY

Quality Lubricants G-C *Since 1919*

MACON GEORGIA

Non-melting oils for top rolls, comb boxes, looms and motors. Ben Boy non-melting greases for dry cans, slashers, calenders, dryers.

SAVE UP TO $800 YEARLY *with the right* **SHUTTLE FUR**

- ***FREE BULLETIN SHOWS HOW to SAVE on SHUTTLE FUR***
  For the best weaving results—give us a trial on your shuttle fur requirements
- ***FREE SAMPLES OF SHUTTLE FUR***
  In any width or grade. Also whole hides from Australian, Brown and Gray Opossum
  WRITE TODAY FOR PRICES AND SAMPLES

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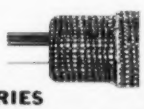
FREE TRIAL

Davis Card Scavenger Roll Covers®

Strip Clean Instantly
Fit Any Sized Roll
Hug "Beat-Up" Rolls Tightly
No Seams—No Frayed Ends
Outlast Paper or Cloth Covers—3 times

Free Trial: Send us an old scavenger roll to be recovered. We will return it to you prepaid and let you be the judge.

We also make: Knit Dye Tubing; Sheepskin and Cloth Clearers; Star Brand ★ Roller Varnish.



THE TEXTILE LABORATORIES

P. O. Box 1003 Telephone 5-2791 Gastonia, N. C.

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SUPPLIERS News
WHAT THEY ARE DOING

ership at 10-10 Bridge Plaza South, Long Island City, N. Y. Don Shaffer, formerly a district manager, has been named manager of the store.

A. I. Holmes has been made manager of Foamglas building insulation sales for **Pittsburgh Corning Corp.** He has been with the firm since 1940.

The name of the firm, Precision Rolls, Inc., of Columbus, Ga., manufacturer of a needle bearing top roll, has now been changed to **Cole Engineering Co., Inc.,** according to Burrel

Mr. Morrison (Upper left)
Mr. Cole (Upper right)
Mr. Waite (left)

C. Cole, president. Edwin P. Waite, vice-president and chief engineer, was responsible for the design of the top roll, which is being marketed by Medley Manufacturing Co. of Columbus, of which L. H. "Chick" Morrison is president.

Robert Gow, formerly with Monsanto Chemical Co., has joined **Reichhold Chemicals, Inc.,** as sales manager of the firm's newly created textile division, with offices in Charlotte, N. C.

O. G. Culpepper, sales representative for **Parks-Cramer Co.** for the past 47 years, retired on October 1.

James H. Clarke has joined the sales staff of **Standard - Coosa - Thatcher Co.** and will assist Charles F. Smith in the New York office in the sale of cotton yarns and threads

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- The machines shown in the "General View of the Inspection Department" of the Hathaway Manufacturing Co. on page 13 of the May, 1952, issue of *Textile Age* are the same machines as the one illustrated above.

Send for Bulletin No. 345

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Power Equipment Co., High Point, N. C., has been appointed textile sales representative for **Standard Designers, Inc.**, Asheville, N. C., in Virginia, West Virginia, and North and South Carolina.

Ground has been broken for construction of **Westinghouse Electric Corp.'s** $10,000,000 meter plant at Raleigh, N. C. It is being built to relieve some of the facilities at the division's headquarters in Newark, N. J., according to J. M. Wallace, manager.

An Executive Views the News in Textiles

(Continued from page 69)

1949 this had declined to 508.9 million pounds. Man-made fibers, on the other hand, had increased in this particular market from 227.8 million pounds to 430.0 million pounds.

We know, of course, that cotton has made great gains in many fields and that even in the field of women's and children's clothes, it has made some very excellent specific gains. At the same time, it has suffered an over-all decrease, and the major portion of this decrease has been in the nightwear and underwear group. Before the advent of synthetics, this group had largely been supplied by the fine goods mills in New England.

Other examples of uses into which fine cotton goods once went, and which have now been largely taken over by man-made fibers, are men's summer suits, neckties, and a few others.

The State Rests

There, then, is the case. We can look it over objectively and see one or two loopholes, but, viewing it as one continuous piece of fabric, it seems to make quite a bit of sense. There is no doubt that competition from the South has contributed to the decline of the New England textile industry, but it seems to us that perhaps competition from man-made fibers has been a much more important factor.

We know that at this point someone will say, "Well, if all of this is true, why is it that practically all of the synthetic industry has been built in the South?" We thought of that, too, but, to us, it seems somewhat irrelevant to the point we are trying to discuss. We are trying to decide what influence, if any, the growth of the synthetics industry has had upon the decline of the New England cotton textile industry. We are not trying to find out why the synthetics industry grew in the South rather than some other part of the country. That would take a separate study and after viewing graphs, charts, and statistics for some hours, we do not feel up to it just at this time.

Anyway, the question raised by our friend gives us quite a bit to think about.

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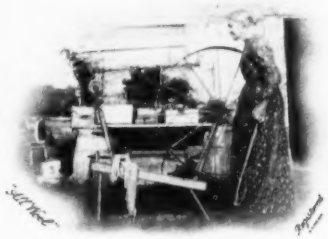

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(Rates at top of opposite page)

TEXTILE INDUSTRIES

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ADVERTISER'S INDEX

A

Abbott Machine Co. 44
Adams Co., R. P. 150
Advertising Council, Inc. 56
Aldrich Machine Works 24
Allen Beam Co. 180
Allen Son's Co., Wm. ..... *
Allen Warper Company 184
Allis Company, Louis ..... *
Allis-Chalmers Mfg. Co. 38, 39
Althouse Chemical Co. ..... *
Alvey Conveyor Mfg. Co. 159
Amalgamated Chemical Co. ..... *
American Air Filter Co. ..... *
American Aniline Products, Inc. 125
American Associated Consultants, Inc. 189
American Cyanamid Co., Industrial Chemical Div. ..... *
American Lava Corp. 29
American Moistening Co. 7
American Monorail Co., Inc. 116
American Paper Tube Co. 62
American Pulley Co. ..... *
American Steel & Wire Co. ..... *
American Viscose Corp. 5
American & Efird Mills, Inc. 184
Amplex Mfg. Co. ..... *
Anheuser-Busch, Inc. ..... *
Arkansas Company, Inc. 47
Armstrong Cork Co. 54, 55
Arnold Hoffman & Co., Inc. 8
Ashworth Bros., Inc. ..... *
Atkinson Haserick & Co. ..... *
Atlanta Belting Co. ..... *
Atlanta Paper Co. ..... *
Atlantic Steel Co. ..... *
Aurora Pump Co. 190
Avondale Mills 194

B

Bagley & Sewall ..... *
Bahan Textile Mchy. Corp. ..... *
Bahnson Co. ..... *
Barber-Colman Co. (Controls) ..... *
Barber-Colman Co. (Textile Div.) 20
Barnes Textile Associates, Inc. 196
Best & Co., Edward H. 199
Bijur Lubricating Co. ..... *
Binney & Smith, Inc. ..... *
Birch Brothers, Inc. ..... *
Boger & Crawford ..... *
Bond Co., Charles 183
Borne, Scrymser Co. ..... *
Brinton Co., H. 74
Brush Development Corp. ..... *
Bryant Electric Company 168
Buffalo Forge Co. ..... *
Buffalo Pumps, Inc. 72
Butterworth & Sons, Inc., H. W. 46

C

Calco Chemical Division 43
Carborundum Co. 156
Carnegie-Illinois Steel Corp. ..... *
Carroll & Co., J. E. ..... *
Carter, Inc., A. B. 182
Celanese Corp. of America & Subsidiary Cos. 130
Centrif-Air Machine Co., Inc. 134
Ciba Co., Inc. ..... *
Clark Equipment Co. (Industrial Truck Division) ..... *
Classified Ads 200, 201
Clayton Co., J. M. ..... *
Cleveland Crane & Engineering Co. ..... *
Cleveland Elec. Co. 199
Clinton Foods Inc. 172
Clipper Belt Lacer Co. 192
Cocker Mach. & Fdry. Co. 30
Cole Co., R. D. 176
Cole Engineering Corporation 6
Coleman Company, Inc. 186
Colson Corporation 170
Columbia-Geneva Steel ..... *
Commercial Factors Corp. ..... Second Cover
Continental-Diamond Fibre Co. 166
Corn Products Sales Co. ..... *
Crabb & Co., Wm. ..... *
Crane Co. ..... *
Crompton & Knowles Loom Works 11
Crompton-Richmond Factoring Division 173
Crossett Chemical Co. 199
Curlator Corp. (Textile Div.) 49
Curtis & Marble Machine Co. 198
Cutler-Hammer, Inc. ..... *
Cyclotherm Corporation 194

D

Darnell Corp., Ltd. 174
Dary Ring Traveler Co. 176
Davis & Furber Machine Co. ..... *
Dayton Rubber Mfg. Co. ..... *
Dexter Chemical Corp. 59
Dixie Leather Corp. ..... *
Dixon Saddle Co. ..... *
Dodenhoff Co., W. D. ..... *
Dodge Mfg. Corp. ..... *
Dommerich & Co., L. F. ..... *
Dow Chemical Co. ..... *
Dow Corning Corp. 16, 191
Draper Corporation 1
Dronsfield Bros. Ltd. 186
Du Pont de Nemours & Co., Inc., E. I. (Dyestuff Div.) ..... *
Du Pont de Nemours & Co., Inc., E. I. (Electrochemicals Dept.) ..... *
Du Pont de Nemours & Co., Inc., E. I. Finishes Div.) ..... *
Du Pont de Nemours & Co., Inc., E. I. (Textile Fibers) 45

E

Economy Baler Co. 198
Emery Industries, Inc. 41
Emmons Loom Harness Co. ..... *
Eriez Mfg. Co. ..... *
Excel Textile Supply Co. 189

F

Fafnir Bearing Co. 35
Ferguson Gear Co. 191
Fidelity Machine Co. ..... *
Finnell Systems, Inc. ..... *
Fletcher Works ..... *
Foster Machine Co. 138
Foxboro Company 52
Franklin Process Co. 25

G

Gardner-Denver Co. ..... *
Gastonia Brush Co. 192
Gates Rubber Co. ..... *
Gaylord Container Corp. 42
General Dyestuff Corp. 158-A
General Electric Co. 22, 23
General Radio Co. ..... *
Georgia-Carolina Oil Company 196
Glasco Equipment Corp. 158
Goodyear Tire & Rubber Co. ..... *
Graton & Knight Co. ..... *
Grinnell Company, Inc. ..... *
Gulf Oil Corp. 13

H

Hansen Mfg. Company ..... *
Hart Products Corp. ..... *
Hayes Industries, Inc. ..... *
Hayssen Mfg. Company ..... *
Herr Mfg. Company 33
Holt Hardwood Co. ..... *
Holyoke Machine Co. 64
Hotels Dinkler 197
Houghton & Co., Inc. E. F. ..... *
Howard Bros. Mfg. Co. 144
Hubinger Bros. Mfg. Co. ..... *
Huffman-Wolfe Co. ..... *
Hunt Loom & Machine Works, Inc. ..... *
Hunter Machine Co., James 15
Hyatt Bearings Division ..... *
Hyster Company ..... *

I

Ideal Industries, Inc. 146
Ideal Mach. Shops ..... *
Industrial Brush Company 175
Industrial Plastics, Inc. ..... *

J

Jacobs Northern Div., E. H. ..... First Cover, 70
Jenkins Metal Shops, Inc. ..... *
Jenkins Sons, Inc., M. W. 163
Johnson Bronze Co. 155
Johnson Corp. 181
Johnson Machine Works, Chas. B. 172

K

Kali Mfg. Co. 186
Keever Starch Co. 140
Keystone View Co. ..... *
Kidde Mfg. Company ..... *
Kidde & Co., Inc., Walter 142
Klauttz Machine & Fdry. Co. ..... *

ADVERTISER'S INDEX

L

Lane & Bros. Inc., W. T. ... *
Lassonde, Joseph M. ... *
Laurel Soap Mfg. Co. ... *
Lawlor Co., S. C. ... *
Lazenby & Co., F. A. ... 198
Lee Co., L. A. ... 198
Lestershire Spool & Mfg. Co. ... *
Libbey-Owens-Ford Glass Co. ... *
Link Engineering Co. ... 27
Livermore Corp., H. F. ... *
Lockwood Greene Engineers ... *
Logan Co. ... 169
Logemann Brothers Co. ... *
Loper Co., Ralph E. ... 198

M

M-B Products ... 182
McBride Co., Edw. J. ... *
Machinecraft, Inc. ... *
Maple Flooring Mfrs. Assn. ... *
Marquette Metal Products Co. ... 60
Marshall & Williams Corp. ... 164
Mason-Neilan Regulator Co. ... *
Meadows Mfg. Co. ... 10
Medley Mfg. Co. ... 6
Meese, Inc. ... *
Merrow Machine Co. ... 162
Milton Machine Works ... *
Moisture Register Co. ... *
Momar, Inc. ... 182
Monsanto Chemical Co. ... 21
Monticello Bobbin Co. ... *
Morris Fur Co. ... 196
Mt. Hope Machinery Co. ... 26
Murphy Fur Co., T. J. ... *
Murry Co. of Texas, The ... *

N

Nash Company, J. M. ... *
National Aniline Div. ... 51
National Business Publications ... 50
National Drying Mchy. Co., Inc. ... 178
National Research Bureau, Inc. ... *
National Ring Traveler Co. ... 196
National Tube Co. ... *
New Departure Div. ... 118
New England Bobbin & Shuttle Co. ... *
New York & New Jersey Lubricant Co. ... *
North, Inc., Frank G. ... 194

O

Oakite Products, Inc. ... 180
Odom Machine Mfg. Corp. ... *
Onyx Oil & Chemical Co. ... *
Orr Felt & Blanket Co., The ... 197

P

Parks-Cramer Co. ... 152
Penick & Ford, Ltd., Inc. ... 192
Perfecting Service Company ... 167
Perkins & Sons, Inc., B. F. ... 28
Permutit Co. ... *
Pneumafil Corporation ... *
Powell Co., Wm. ... *
Precision Gear & Mach. Co. ... 181
Presser & Co., E. J. ... *
Proctor & Gamble Distributing Co. ... *
Proctor & Schwartz, Inc. ... 9
Product Sales, Inc. ... *

R

Ragan Ring Co. ... *
Red-Ray Mfg. Co. ... *
Reeves Pulley Co. ... *
Refined Products Corp. ... 2
Reiner, Inc., Robert ... *
Reliance Electric & Engr. Co. ... *
Rhoads & Sons, J. E. ... *
Rice Dobby Chain Co. ... 180
Richards-Wilcox Mfg. Co. ... *
Ridge Tool Co. ... 161
Riggs & Lombard, Inc. ... *
Robbins & Myers, Inc. ... 171
Robert & Co., Associates, Inc. ... 204
Rohm & Haas Co. ... *
Ross Engr. Corp., J. O. ... *
Roy & Son Co., B. S. ... *
Royce Chemical Co. ... Fourth Cover
Rumford Chemical Works ... *

S

Saco-Lowell Shops ... 136
Sandoz Chemical Works ... *
Sarco Company, Inc. ... *
Sargents Sons Corp., C. G. ... *
Scherr Co., Inc., Geo. ... *
Scholler Bros., Inc. ... *
Scott Testers, Inc. ... *
Seydel-Woolley & Co. ... 68
Shafer Bearing Corp. ... *
Shepard Niles Crane & Hoist Corp. ... 160
Simco Company ... 190
Sims Sheet Metal Works ... 184
Sinclair Refining Co. Inc. ... *
Sipp-Eastwood Corp. ... 174
Sirrine & Co., J. E. ... *
Smith, Drum & Company ... *
Solvay Process Division, The Allied Chemical & Dye Corp. ... *
Sonoco Products Co. ... 66
Southeastern Engineering Co. ... *
Southern Airways, Inc. ... *
Southern Co. ... *
Southern Shuttles Div. ... 4
Southern Sizing Co. ... 132
Southern States Equip. Corp. ... *
Specialty Hardwood Co. ... *
Staley Mfg. Co., A. E. ... *
Standard Chemical Prod., Inc. ... *
Standard Fabricators, Inc. ... *
Standard Oil Company, Inc. ... 58
Standard Pressed Steel Co. ... 14
Star Woolen Company ... *
Steel Heddle Mfg. Co. ... 4
Sterling Ring Traveler Co., Inc. ... 192
Strandberg Engineering Laboratories ... 195
Sun Oil Co. ... *
Supreme Knitting Machine Co. ... *
Swift & Co. ... 36

T

Tanner Co., Charles S. ... 178
Tatem Mfg. Co. ... 177
Taylor Instrument Cos. ... *
Taylor-Stiles & Co. ... *
Tennant Co., G. H. ... 157
Tennessee Coal, Iron and Railroad Co. ... *
Tennessee Corp. ... *
Terrell Co. ... 57
Texas Co. ... *
Textile Apron Co. ... 192
Textile Banking Co., Inc. ... 32
Textile Industries ... *
Textile Laboratories ... 196
Textile Machine Works ... 76, 126
Textile Shield Co., Inc. ... 193
Textile Shops ... *
Theiler Corp., H. J. ... *
Thomaston Mills ... *
Tidewater Associated Oil Co. ... *
Todd Long Picker Apron Co. ... 196
Toledo Scale Co. ... *
Ton-Tex Corp. ... *
Torrington Co.
(Latch & Spring Beard Needles) ... 37
(Needle Bearings) ... 18
Tower Iron Works ... *
Treasury Department ... *
Trico Fuse Mfg. Co. ... *
Trust Company of Georgia ... *
Turbo Machine Co. ... *

U

Union Carbide & Carbon ... *
U. S. Bobbin & Shuttle Co. ... 53
U. S. Ring Traveler Co. ... 194
U. S. Steel Corp. ... *
U. S. Textile Mach. Co. ... 19
United States Rubber Co. ... *
Universal Winding Co. ... 34, 128
Uster Corporation ... *

V

Van Vlaanderen Co. ... *
Veeder Root, Inc. ... Third Cover
Victor Ring Traveler Co. ... 40

W

Walker Div. of Draper Corp. ... *
Wallerstein Co., Inc. ... 31
Walton Laboratories, Inc. ... 165
Walton & Lonsbury Company ... *
Want Ads ... 200, 201
Warner & Swasey Co. ... 12
Watson-Williams Mfg. Co. ... *
West Point Fdy. & Mach. Co. ... 148
Westinghouse Electric Corp. ... 17
Whitehead Engr. Co. ... 197
Whitin Machine Works ... 48
Whitinsville Spinning Ring Co. ... 185
Wicaco Machine Corp. ... 190
Wildman Mfg. Co. ... *
Willcox & Gibbs Sewing Machine Co. ... *
Wolf & Co., Jacques ... *
Wonalancet Company ... 185

Y

Young Aniline Works ... *

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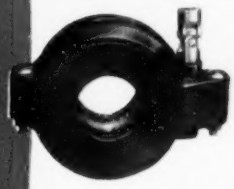

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